BMC® Remedy® Task Management System 7.0

Administrator's Guide

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Contacting Us

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This edition applies to version 7.0 of the licensed program.

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`www.bmc.com`

Contents

Preface

The *BMC Remedy Task Management System 7.0 Administrator's Guide* describes how to use the BMC® Remedy® Task Management System application. Task Management System application functions similar to the other foundation components that are installed with the BMC® Remedy® IT Service Management Suite (BMC® Remedy® ITSM Suite), even though it is not installed with every ITSM 7.0 application.

The BMC Remedy ITSM Suite includes:

- The BMC® Remedy® Asset Management application.
- The BMC® Remedy® Change Management application.
- The BMC® Remedy® Service Desk solution (which includes the BMC® Remedy® Incident Management application and the BMC® Remedy® Problem Management application).
- The BMC® Service Level Management application.

The applications run in conjunction with the BMC® Remedy® Action Request System® platform (BMC® Remedy® AR System® platform) and share a common database. All five applications consume data from the BMC® Atrium® Configuration Management Database (CMDB) application.

Best Practice and New icons

Documentation for the BMC Remedy ITSM Suite contains two icons:

Icon	Description
	The New icon identifies features or products that are new or enhanced with version 7.0.
	The Best Practice icon highlights processes or approaches that BMC has identified as the most effective way to leverage certain features in the suite.

About the BMC Remedy IT Service Management Suite

There have been several updates to the BMC Remedy ITSM Suite since version 6.0.

Note the change to the BMC® Remedy® Help Desk application. BMC is now offering the BMC Remedy Service Desk solution, which contains the following applications:

- BMC Remedy Incident Management
- BMC Remedy Problem Management

BMC Atrium CMDB 2.0

BMC Atrium CMDB 2.0 is installed with Asset Management, Change Management, and Service Desk (including Incident Management and Problem Management). It stores information about configuration items and their relationships in an inheritance-based data model, and has the ability to reconcile data from different sources. BMC Atrium CMDB 2.0 provides a "single source of truth" about your IT environment, enabling other BMC applications to manage CIs, predict the impact of configuration changes, and perform other Business Service Management (BSM) functions.

For more information, see the *BMC Atrium CMDB 2.0 User's Guide*.

BMC Remedy Asset Management 7.0

The BMC Remedy Asset Management application lets IT professionals track and manage enterprise CIs—and their changing relationships—throughout the entire CI lifecycle. As part of the BMC Remedy ITSM Suite, Asset Management is integrated with BMC Remedy Service Desk (which contains the BMC Remedy Incident Management and BMC Remedy Problem Management applications), BMC Remedy Change Management, and BMC Service Level Management, and offers flexibility to support customized business processes. For more information, see the *BMC Remedy Asset Management 7.0 User's Guide*.

BMC Remedy Change Management 7.0

Using ITIL-compatible best practices, BMC Remedy Change Management provides IT organizations with the ability to manage change by enabling them to assess impact, risk, and resource requirements, and then create plans and automate approval functions for implementing changes. It provides scheduling and task assignment functionality, and reporting capabilities for reviewing performance and improving processes. Because Change Management is integrated with BMC Atrium CMDB, it lets you relate changes to other records, such as configuration items (including services) and incidents.

For more information, see the *BMC Remedy Change Management 7.0 User's Guide.*

BMC Remedy Incident Management 7.0

BMC Remedy Incident Management is used to manage incidents. Incident management is reactive, and is typically initiated in response to a customer call or automated event. An example of an automated event might be an alert from a monitoring system, such as BMC® Service Impact Management (BMC® SIM). The primary goal of the incident management process, according to ITIL standards, is "to restore normal service operation as quickly as possible with minimum disruption to the business, thus ensuring that the best achievable levels of availability and service are maintained."

An incident is any event that is not part of the standard operation of a service and that causes an interruption to or a reduction in the quality of that service. Normal service operation is the operation of services within the limits specified by Service Level Management (SLM).

For more information, see the *BMC Remedy Service Desk: Incident Management 7.0 User's Guide*.

BMC Remedy Problem Management 7.0

BMC Remedy Problem Management is used to manage problem investigations, known errors, and solution database entries. Problem management can proactively prevent the occurrence of incidents, errors, and additional problems. A problem investigation helps an IT organization get to the root cause of incidents. It initiates actions that help to improve or correct the situation, preventing the incident from recurring.

After a problem investigation identifies the cause, this information can result in either a known error or a solution database entry. A known error is a problem that has been successfully diagnosed and for which a temporary work-around or permanent solution has been identified. A solution database entry contains information that might be required to provide or restore a service.

For more information, see the *BMC Remedy Service Desk: Problem Management 7.0 User's Guide*.

BMC Service Level Management 7.0

BMC Service Level Management enables a service provider, such as an IT organization, a customer support group, or an external service provider, to formally document the needs of its customers or lines of business using service level agreements, and provide the correct level of service to meet those needs.

Service Level Management also provides a means to review, enforce, and report on the level of service provided. It streamlines the most important task of all, which is the communication between a service provider and its customers. Multiple service targets can be defined and monitored, acting as a bridge between IT service support and IT operations. This enables costs to be controlled and helps to provide a consistent level of service in support of a key business service.

For more information, see the *BMC Service Level Management 7.0 User's Guide*.

Audience

The Task Management System is intended for the following IT professionals:

- Application designers who design and maintain applications and who need task functionality for applications built on the 7.0 Action Request System platform.
- Application administrators who maintain the 7.0 ITSM applications and who configure the applications to meet your organization's business needs.
- ITSM users who want to understand how tasks work with their applications.

This guide contains reference information and procedures for creating, modifying, and maintaining task components, including task groups, tasks, task group templates, task templates, and variable templates.

BMC Remedy IT Service Management Suite documents

The following table lists the documentation available for the BMC Remedy ITSM Suite.

Unless otherwise noted, online documentation in Adobe Acrobat (PDF) format is available on product installation CDs, on the Customer Support website (`http://supportweb.remedy.com`), or both. You can order printed documentation from `SMBU-Upgrade@bmc.com`.

Note: To access the support website, you must have a support contract.

You can access application Help by clicking on Help links within the application.

Title	Document provides	Audience	Format
Managing for Excellence: Using Remedy for Best Practices in IT Service Management	Best practices for implementing the BMC Remedy IT Service Management suite in your organization.	Decision makers (CEOs and CTOs)	Print and PDF
BMC Remedy Action Request System 7.0 Concepts	Concepts for using the Action Request System.	Administrators	Print and PDF

Title	Document provides	Audience	Format
BMC Remedy Action Request System 7.0 Installing	Procedures for installing the Action Request System.	Administrators	Print and PDF
BMC Atrium CMDB 2.0 Common Data Model Diagram	Hierarchical diagram of all classes in the CDM, including unique attributes and applicable relationships.	Administrators	PDF
BMC Atrium CMDB 2.0 Common Data Model Help	Description and details of superclasses, subclasses, attributes, and relationships for each class.	Administrators	HTML
BMC Atrium CMDB 2.0 Concepts and Best Practices Guide	Information about CMDB concepts and best practices for planning your BMC Atrium CMDB implementation.	Executives and administrators	Print and PDF
BMC Atrium CMDB 2.0 Developer's Reference Guide	Information about creating API programs, C and Web Services API functions and data structures, and a list of error messages.	Administrators and programmers	PDF
BMC Atrium CMDB 2.0 Help	Help for using and configuring BMC Atrium CMDB.	Users and administrators	Product Help
BMC Atrium CMDB 2.0 Installation and Configuration Guide	Information about installing and configuring BMC Atrium CMDB, including permissions, class definitions, reconciliation, and federation.	Administrators	Print and PDF
BMC Atrium CMDB 2.0 Javadoc API help	Information about Java classes, methods, and variables that integrate with BMC Atrium CMDB.	Programmers	HTML
BMC Atrium CMDB 2.0 Master Index	Combined index of all books.	Everyone	Print and PDF
BMC Atrium CMDB 2.0 Release Notes	Information about new features and known issues.	Everyone	Print and PDF
BMC Atrium CMDB 2.0 User's Guide	Information about using the BMC Atrium CMDB, including searching for and comparing CIs and relationships, relating CIs, viewing history, and launching federated data.	Users	Print and PDF
BMC Remedy Approval Server 7.0 Guide for Users and Administrators	Topics on installation and configuration of the Approval Server, how to use the Approval Server, and understanding the approval workflow.	Users and administrators	Print and PDF

Title	Document provides	Audience	Format
ITSM Configuration Quick Start	Start with this reference card to quickly install and configure applications in the ITSM suite.	Administrators	Print and PDF
BMC Remedy IT Service Management 7.0 Configuration Guide	Procedures for configuring the BMC Remedy IT Service Management applications.	Administrators	Print and PDF
BMC Remedy IT Service Management 7.0 Installation Guide	Procedures for installing the BMC Remedy IT Service Management applications and solutions—BMC Remedy Service Desk solution (BMC Remedy Incident Management and BMC Remedy Problem Management), BMC Remedy Change Management, and BMC Remedy Asset Management.	Administrators	Print and PDF
BMC Remedy Asset Management 7.0 Help	Help for using BMC Remedy Asset Management.	Everyone	Product Help
BMC Remedy Asset Management 7.0 Release Notes	Information about known issues in each release of BMC Remedy Asset Management. Also provides a list of new features included with the application.	Everyone	Print and PDF
BMC Remedy Asset Management 7.0 User's Guide	Procedures for using the BMC Remedy Asset Management application; includes new features and overview.	Everyone	Print and PDF
BMC Remedy Change Management 7.0 Help	Help for using BMC Remedy Change Management.	Everyone	Product Help
BMC Remedy Change Management 7.0 Release Notes	Information about known issues in each release of BMC Remedy Change Management. Also provides a list of new features included with the application.	Everyone	Print and PDF
BMC Remedy Change Management 7.0 User's Guide	Procedures for using the BMC Remedy Change Management application; includes new features and overview.	Everyone	Print and PDF
BMC Remedy Service Desk 7.0 Release Notes	Information about known issues in each release of BMC Remedy Service Desk: Incident Management and BMC Remedy Service Desk: Problem Management. Also provides a list of new features included with the application.	Everyone	Print and PDF

Title	Document provides	Audience	Format
BMC Remedy Service Desk: Incident Management 7.0 Help	Help for using BMC Remedy Incident Management.	Everyone	Product Help
BMC Remedy Service Desk: Incident Management 7.0 User's Guide	Procedures for using the BMC Remedy Service Desk: Incident Management application; includes new features and overview.	Everyone	Print and PDF
BMC Remedy Service Desk: Problem Management 7.0 Help	Help for using BMC Remedy Problem Management.	Everyone	Product Help
BMC Remedy Service Desk: Problem Management 7.0 User's Guide	Procedures for using the BMC Remedy Service Desk: Problem Management application; includes new features and overview.	Everyone	Print and PDF
BMC Service Level Management 7.0 Configuration Guide	Procedures for configuring the BMC Service Level Management application.	Administrators	Print and PDF
BMC Service Level Management 7.0 Configuration Help	Help for configuring the BMC Service Level Management application.	Administrators	Product Help
BMC Service Level Management 7.0 Installation Guide	Procedures for installing the BMC Service Level Management application.	Administrators	Print and PDF
BMC Service Level Management 7.0 Release Notes	Information about known issues in each release of BMC Service Level Management. Also provides a list of new features included with the application.	Everyone	PDF
BMC Service Level Management 7.0 User Help	Help for using the BMC Service Level Management application.	Everyone	Product Help
BMC Service Level Management 7.0 User's Guide	Procedures for using the BMC Service Level Management application; includes new features and overview.	Everyone	Print and PDF
BMC Remedy Task Management System 7.0 Administrator's Guide	Procedures to configure Task Management. **Note:** This guide also includes steps to configure seamless authentication between BMC Remedy Change Management and the other components of BMC Remedy Change and Configuration Management (CCM).	Administrators	Print and PDF

Documents important for BMC Remedy Change and Configuration Management

The BMC Remedy CCM solution includes the following additional documents:

Title	Document provides	Audience	Format
BMC Configuration Management 7.0 Planning Guide	Helps you design an infrastructure for your enterprise, which involves determining the machines you will use for the various components and whether you need to purchase additional hardware and software.	System Administrator	PDF
BMC Configuration Management 7.0 Reference Guide	Provides reference information such as command-line options, tuner properties, proxy properties, transmitter properties, channel properties, channel parameters, channel states, ports, and log IDs with associated log messages.	System Administrator	PDF
BMC Configuration Management 7.0 System Requirements Guide	Provides hardware requirements (such as processing speed, disk space, and RAM) and operating system requirements for supported platforms. This guide also lists the supported databases, directory services, and locales.	System Administrator	PDF
BMC Configuration Management 7.0 Upgrade Guide	Provides instructions about upgrading Configuration Management products to the current version.	System Administrator	PDF
BMC Configuration Management Application Packager 7.0 Administrator's Guide	Provides information about packaging software for distribution to desktops or servers. This guide also includes information about command-line usage, policies, XML templates, and Windows system macros.	System Administrator	PDF
BMC Configuration Management Infrastructure 7.0 Administrator's Guide	Provides information about the infrastructure components such of Common Management Services (CMS), tuners, transmitters, and proxies. This guide also describes the tools and features you use to configure these components.	System Administrator	PDF

Title	Document provides	Audience	Format
BMC Configuration Management Installation and Deployment 7.0 Guide	Provides instructions about installing for the first time the Configuration Management solution and its associated products.	System Administrator	PDF
BMC Configuration Management Introduction to Products 7.0 Guide	Introduces you to Configuration Management products and solutions and defines basic concepts about core technology.	System Administrator	PDF
BMC Configuration Management Policy Management 7.0 Administrator's Guide	Helps you configure and administer Policy Management and the Policy Service plug-in. This guide also includes integration procedures for directory services such as Active Directory, ADAM, and Sun ONE Directory.	System Administrator	PDF
BMC Configuration Management Report Center 7.0 Administrator's Guide	Provides instructions about running queries of inventory information, configuring the Inventory and Logging plug-in, configuring endpoints, and integrating Report Center with other Configuration Management applications.	System Administrator	PDF
BMC Configuration Management Schema Manager 7.0 Help	Provides installation, update, and maintenance instructions for the database schema and directory service.	System Administrator	Help
BMC Configuration Management Server Management 7.0 Administrator's Guide	Describes how to use Deployment Management and Content Replicator to control and monitor the distribution of content and applications across heterogeneous server platforms and data centers. This guide also describes Deployment Management extensions to Report Center and Application Packager.	System Administrator	PDF
BMC Configuration Management Server Management Command-Line Interface 7.0 Guide	Provides syntax and usage information for the Server Management command-line options and describes how to use the SOAP interface.	System Administrator	PDF

Title	Document provides	Audience	Format
BMC Configuration Management Configuration Discovery Integration for CMDB Implementation 7.0 Guide	Provides instructions about planning, installing, and configuring the Configuration Discovery integration. This guide also includes information about relationship classes and mappings, data exchanges, and reconciliation definitions.	System Administrator	PDF
Definitive Software Library 7.0 Administrator's Guide	Provides a description of the Definitive Software Library and explains how the DSL is useful to you, how to use the DSL console, and how to access the DSL using BMC CM products, such as Report Center and Application Packager.	System Administrator	PDF
Patch Management 7.0 Administrator's Guide	Helps you configure and administer Patch Management and the Patch Service plug-in.	System Administrator	PDF

Chapter

1 Introduction to Task Management System

The Task Management System (TMS) is a core component of the Change and Configuration Management (CCM) solution. TMS is also used in the Incident Management and Problem Management applications. TMS supports branching and multiple paths along with data exchange among tasks. TMS also supports integration with BMC Configuration Management applications by means of a launch mechanism.

The following topics are provided:

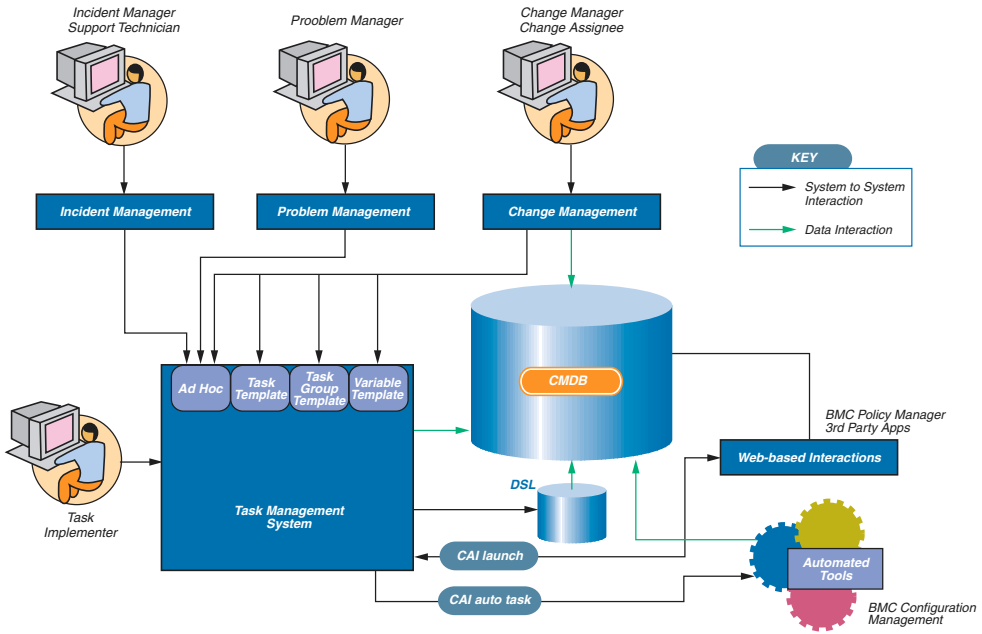
Task Management overview

The Task Management application is a tool that manages the workflow of tasks as they are implemented in an application. Task Management provides support for simple and complex business processes as well as integration with automation tools needed for change management execution and verification.

Task Management is a core component of the Change and Configuration Management (CCM) solution. The tasking functionality in the 7.0 IT Service Management (ITSM) applications has been enhanced to provide tasking capabilities to the Change Management, Problem Management (PM), and Incident Management (IM) applications and to integrate with the BMC Configuration Management through the Command Automation Interface (CAI).

Figure 1-1 shows where Task Management fits in the entire CCM solution.

Figure 1-1: TMS and Change and Configuration Management



Task management components

Task Management consists of the following primary components:

- **Container objects**—Manage all the related associations and flows of its *children* objects. During the definition phase, container objects are *task group templates*. During the runtime phase, container objects are *task groups*.
- **Task templates**—Lets you create predefined templates for individual work items that you can reuse.
- **Task group templates**—Lets you create predefined templates for collections of individual task templates.
- **Associations**—Define what task templates or task group templates are related to or grouped together under the task group template.
- **Sequencing mechanism**—Lets you define associations and sequences with task group templates and task templates. This mechanism is used with *basic* task group templates.
- **Flow mechanism**—Lets you qualify the dependencies between the associated task group templates and task templates. This mechanism is used with *advanced* task group templates.
- **Variable templates**—Provide the structure that is used to facilitate the passing of information from task group and tasks to flows. These templates are used to create a variable pool for data exchange.
- **Web services**—The TMS_TaskInterface web service performs task queries, and updates operations, including relationships and work information.
- **Task viewer**—Lets you easily see the sequence between tasks as task implementers work on their tasks. The task viewer provides visual context to understand tasks and their relationships to each other. It improves productivity and reduces errors because you now have a clearer understanding of the business process.
- **Task assignment**—Configures assignments for tasks, based on company, and product and operational categorization.

- **BMC Configuration Management integration**—Best practice templates are installed to integrate Task Management and Change Management with BMC Configuration Management. This guide uses many of these templates to illustrate important task administration concepts.

About tasks and task groups

A task is the smallest unit of work that needs to be performed to fulfill a service request or a request for change. Tasks facilitate the timely and accurate resolution of requests that are complex or need several steps completed before the request can be closed.

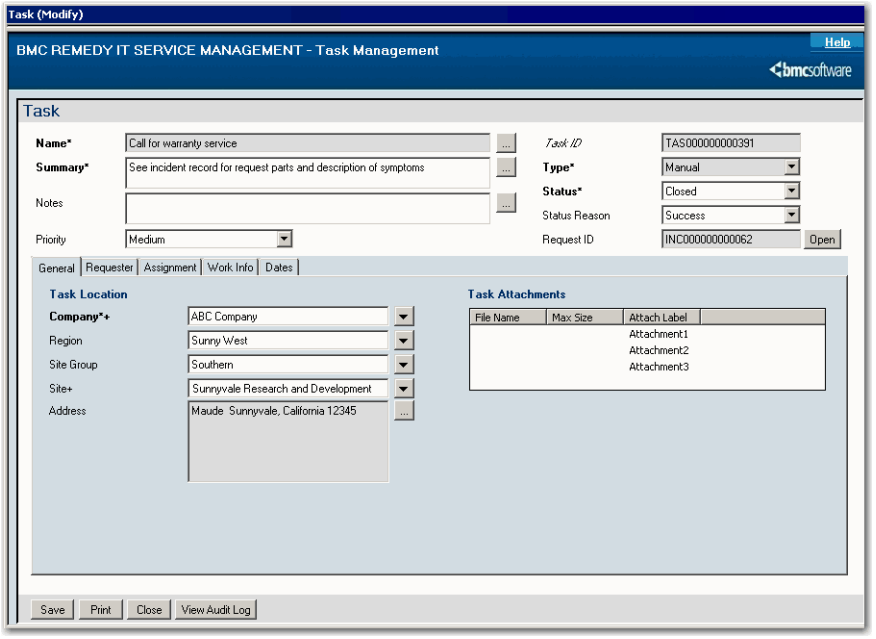
Change implementers and service desk technicians can associate multiple tasks with a change, an incident, or a problem. There is no limit to the number of tasks that can be created. Tasks for the same request can be assigned to different assignees, who are then notified. Change implementers and service desk technicians can also assign tasks to themselves.

Change implementers and service desk technicians perform tasks to complete some operation related to a request. Change implementers can use the task templates or the task group templates that the task administrator sets up as they work on a change request.

In Incident Management, you can assign ad hoc tasks to one or more people without changing the assignment of the incident. Incident Management lets you create ad hoc tasks for open incidents, as appropriate. The status of these tasks in Incident Management can be staged, assigned, pending, work in progress, closed, or bypassed. The waiting status is used only for automatic tasks, which are not applicable to incident management. You can manually set the assignment for any task. Finally, if you close the task, you must select whether you are canceling the task or completing it as a success or failure.

A completed task that is associated with the incident is shown next.

Figure 1-2: Example of completed Task form



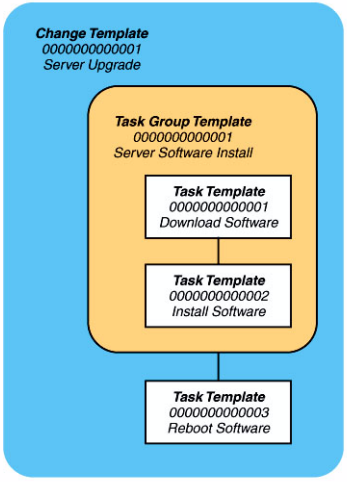
Note: Problem Management and Change Management also use ad hoc tasks.

The status of all tasks must be marked as Closed (with a status reason of Success, Canceled, Failed) before an incident, problem, or change can be closed. For example, to complete a task, assignees might take any of the following actions:

- Make a telephone call.
- Fax information.
- Perform a credit check.
- Prepare contract documentation.
- Activate a service.
- Test a solution.
- Create a patch or workaround on a specific issue.
- Install the latest version of a software application on a user's computer.

Task administrators create task templates and task group templates that the change implementer or service desk technician can reuse for the same types of requests. Task group templates can be reused for complex requests or requests that have several actions. A task group is a "container" that has several tasks or task groups that must be performed in a specified sequence to resolve a request. Tasks can be sequenced if they must be performed in a specific order.

Figure 1-3: Using change templates for standard changes



For example, to activate a phone line there might be some steps you take every time you get a request to activate a phone line for an employee, such as:

- Verify the employee's specific details.
- Search for an available phone number to assign.
- Activate the line.
- Test the line.
- Schedule an appointment for a technician, if necessary.
- Notify the employee that the service is active.

Task management phases

The Task Management System has two phases:

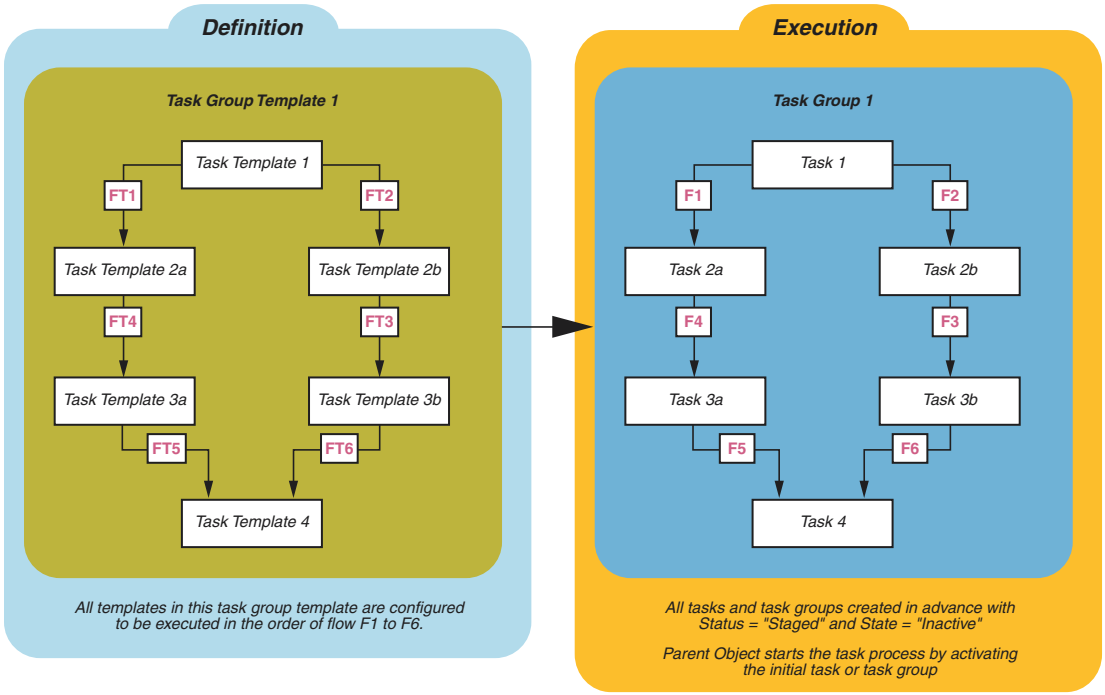
- *Definition phase*—The phase during which the administrator defines the task template and task group templates. The administrator defines the associations that establish the relationships and hierarchy between the task templates. For advanced task group templates, the administrator also defines the flow between task group templates and tasks.
- *Execution phase*—The phase that comprises the container object task group, associations, and flows that establish the relationships and hierarchy among the corresponding tasks.

The process to transform a task group template (the definition phase) to a task group (the execution phase) is called *instantiation*.

When a task group template is instantiated at runtime, the corresponding task group and tasks as well as mapping and relationship definitions are copied according to the task group template definition (task group template, tasks, associations, and flows).

Figure 1-4 shows an example of how the process works.

Figure 1-4: Definition and execution phases using an advanced task group template



Logging in to the Task Management System

You access the Task Management System by opening the Application Administration Console. How you do this depends on whether you want to view the console through the BMC Remedy User client or through a browser. See the following instructions for information about opening the Application Administration Console.

Using BMC Remedy User to open the Application Administration Console

This section describes how to open the Application Administration Console from the IT Home page, using BMC Remedy User.

To open the Application Administration Console from BMC Remedy User

1. Choose Start > Programs > Action Request System > BMC Remedy User.

   The Login dialog box appears.

2. Follow these steps:

   a. In the User Name field, type your user name.

   b. In the Password field, enter your password.

   c. In the Preference Server field, specify the server name if your administrator set up a preference server for centralized user preferences.

3. Click OK to log in.

   The Home Page form opens automatically. If it does not, perform these steps in BMC Remedy User:

   a. Choose Tools > Options.

   b. In the Options dialog box, click the Home Page tab.

   c. Select the check box to open the home page automatically.

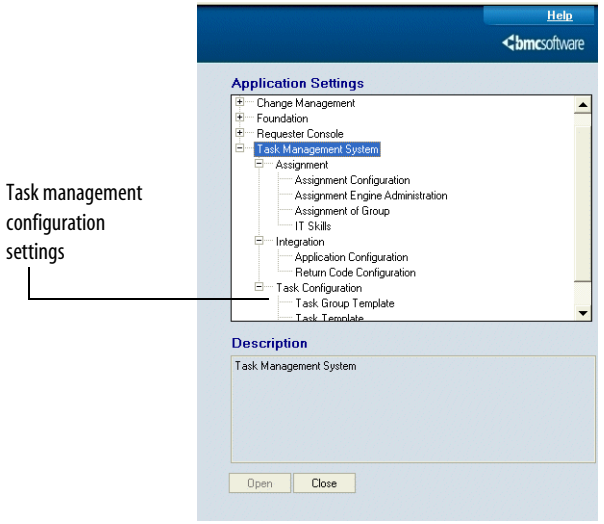
4. When the IT Home page opens, click the BMC Remedy Change Management console link in the navigation pane.

5. Click Application Administration Console.

   The Application Administration Console appears.

6. Click Custom Configuration.

Figure 1-5: Application Administration Console—BMC Remedy User client



7 From the Application Settings list, choose Task Management System.

You can configure the assignment, integration, and task configuration settings for Task Management, as needed.

Using a browser to open the Application Administration Console

This section describes how to open the Application Administration Console from a browser.

▶ To open the Application Administration Console from a browser

1 To open the main console from a browser, type the following URL in to your browser's address bar:

`http://<web_server>:<port>/arsys/apps/<arsystem_server>/Home Page`

<web_server> is the fully qualified name of the BMC Remedy Mid Tier system, specified in the format *server_name*.company.com.

<port> is an optional port number, which is needed if the web server is not on the default port (port 80).

<arsystem_server> is the name of your BMC Remedy AR System server.

2 For a list of supported browsers, see the compatibility matrix at:

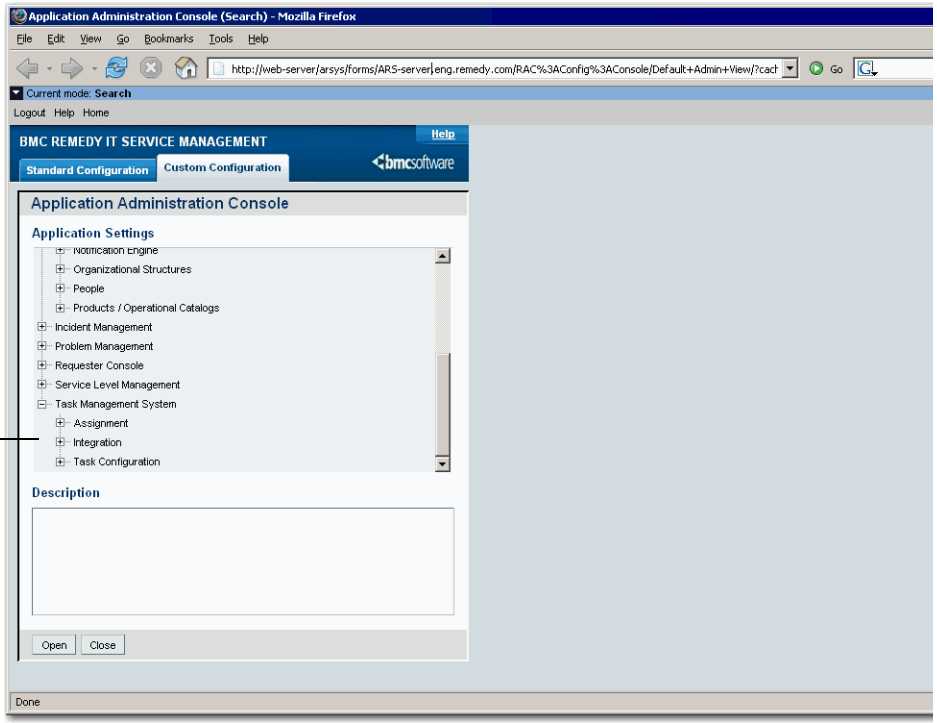
`http://supportweb.remedy.com/`

3 Enter your user name and password, then click Login.

4 When the IT Home page opens, click the Application Administration Console link in the navigation pane.

5 Click Custom Configuration.

Figure 1-6: Application Administration Console—Browser



6 From the Application Settings list, choose Task Management System.

You can configure the assignment, integration, and task configuration settings for Task Management, as needed.

Chapter

2 Configuring integrations

This section describes how to configure Task Management System to work with the Change Management, Incident Management, Problem Management, and BMC Configuration Management applications. This information might also be helpful in modifying the existing configuration data when using Task Management System with other BMC Remedy or third-party applications.

The following topics are provided:

Preliminary tasks

Important: For important information about seamless authentication between Change Management and BMC Configuration Management, see "Seamless integration with BMC Configuration Management" on page 125

Before you begin configuring Task Management, make sure the following tasks have been completed:

- People and Company records
- Configuration Management configuration (if using with BMC Configuration Management)
- LDAP configuration

For information about configuring the Foundation pieces, see the *BMC Remedy IT Service Management 7.0 Configuration Guide*. For LDAP, see "Configuring LDAP with TMS on the AR System server" on page 141

Permission model

Task Management has the following permission levels:

- **Level 1, Task Administrator**—In charge of template definition and has access to all tasks and task groups. The Task Administrator is the "super administrator" of Task Management System.
- **Level 2, Task Application Config**—Can perform the integration functions from the Administrator Console.
- **Level 2, Task Process Config**—Can perform the Task and Assignment pieces from the Administrator Console.
- **Level 3, Task Manager**—Can do what a task user does as well as instantiate task group templates and task templates from a parent object. Can create and update all tasks that are associated with the parent object.
- **Level 4, Task User**—Can update and work on the tasks that are assigned to him or her.
- **Level 5, Task Viewer**—Can view tasks only in read-only mode.

You *might* not see the Task Viewer group permission in the People form. Task groups are inherited by consuming applications like Change Management, Incident Management, and Problem Management. The Change Viewer group provides Task Viewer permissions.

For information about roles and permissions, see the *BMC Remedy IT Service Management 7.0 Configuration Guide*.

Forms for working with TMS

The following forms enable you to work with TMS:

- **Integration Configuration form**—Used to integrate with Task Management. All integrating applications have configuration records in this form.
- **Command Automation Interface (CAI) Application Registry form**—Several systems including TMS, Change Management, and BMC Configuration Management have configuration records. Registration allows these applications to take advantage of additional TMS features.
- **Return Code Configuration form**—Contains return code values between CAI registered applications and the Task form. Only one application (BMC Configuration Management) currently uses this feature.

Important: You need Task Administrator or Task Application Config permissions to be able to configure the integration piece.

The following sections describe the process in more detail.

Configuring integrations

Out of the box, TMS is installed with six configuration entries that have been set for you. These allow TMS to integrate with TMS, Change Management, Incident Management, Problem Management, Known Errors, and Solution Database.

WARNING: Do *not* modify these configuration entries.

You can use the Integration Configuration form to set up integrations with other "home grown" non-ITSM applications that use TMS and specify general settings for integrating.

You specify the Primary form and the name of the template, if one exists. You specify whether to show the minimal view when you open the task form, or all visible fields and tabs. You also specify whether to use the Foundation's assignment and notification functionality. It is expected that the BMC Remedy applications would use those pieces, but that external applications that integrate with TMS might not. Finally, you specify if your integration uses task templates or not.

To configure application integrations

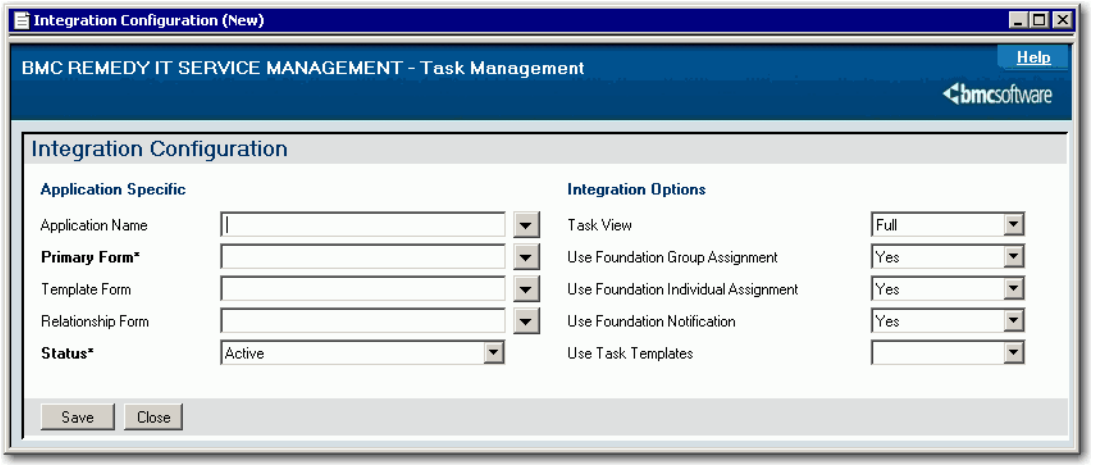
1. Open the IT Home page using Task Administrator or Task Application Config permissions.

   For more information, see "Logging in to the Task Management System" on page 26.

2. Click the Application Administration Console link.
3. Click the Custom Configuration tab.
4. From the Application Settings list, choose Task Management System > Integration > Application Configuration, and then click Open.

   The Integration Configuration form appears.

Figure 2-1: Integration Configuration form



5 To view a list of preconfigured entries, click the New Search toolbar button, enter any search parameters, and then click Search.

You see a list of preconfigured entries.

6 Do any of the following actions:

- Select an entry to view it and modify it, if necessary.
- Click the New Request button on the toolbar, and configure new values.

7 Modify or fill in the fields:

Field Name	Description
Application Name	The parent application name. The menu is data-driven, populated by entries in the SHARE:Application Properties form.
Primary Form	The primary form from the parent application that is used with Task Management System.
Template Form	The template form from the parent application that is used with Task Management System.
Relationship Form	The form that stores relationships or associations between Task Management System and the parent application.
Status	An overall status for this entry. The options are Active and Inactive.
Task View	The view of the Task form that is available to the parent application. The default is Full. If you select Minimal, fewer tabs and fields are displayed.
Use Foundation Group Assignment	Select Yes to specify group assignments for tasks in the CFG:Assignment form for the parent application. Select No to use an alternate (non-ITSM) means for group task assignment.
Use Foundation Individual Assignment	Select Yes to specify individual assignments for tasks using the Assignment Engine for the parent application. Select No to use an alternate (non-ITSM) means for individual task assignment.

Field Name	Description
Use Foundation Notification	Select Yes to specify notifications to be based on the settings specified in the SYS:NT Process Control form. Select No to specify notifications in the Assignment tab of the Task Template forms.
Use Task Templates	Select Yes to specify to use task templates with the parent application. Select No not to use task templates.

8 Click Save.

Registering applications with Command Automation Interface (CAI)

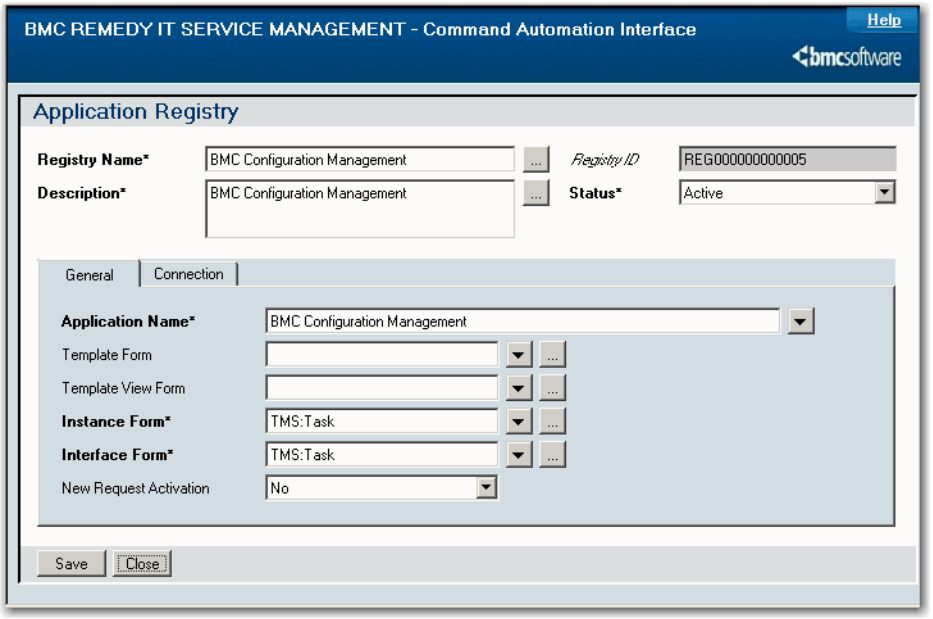
Out of the box, TMS, Change Management, and BMC Configuration Management are already registered with command automation interface (CAI). CAI allows users to integrate with applications that can be used to carry out tasks automatically, for example, BMC Configuration Management. The application registrations have already been configured for you.

If you are integrating TMS with other third-party applications, you must register the application. Use the Application Registry form to register the applications that are used with the Command Automation Interface (CAI), and to identify key elements of the back-end application, such as template forms, interface forms, instance forms, and so on.

External applications that use TMS must be registered in the Application Registry form. The registry entry is the means for TMS to recognize the back-end application, set the configuration settings, such as mode of connection (local or remote), server and template information, and to use this information to set the context for the rest of the TMS entities.

Use the Application Registry form to modify any of the preconfigured information or create new application registries if your organization is going to use TMS with other external applications.

Figure 2-2: Application Registry form



For more information, see the *BMC Remedy IT Service Management 7.0 Configuration Guide*.

Configuring return codes

You can use the Return Code Configuration form to set up return code values between any application registered in CAI and the Task form. Configuring return codes allows you to specify the values a task's status and status reason should be when a particular return code is received from another application.

You map the status and status reason on the Task form when the application returns the specific return code value. For example, a return code value of Error could mean that the Task form has a status of Pending and a status reason of Error.

Best Practice

Out of the box, the return codes used by the BMC Configuration Management integration are already configured in the Return Code Configuration form. Do *not* modify these entries in the Return Code Configuration form. The return codes have already been configured for you.

For the 7.0 release, BMC Configuration Management uses the TMS_TaskInterface web service to set return code values on the Task form. The Return Code Value field is hidden on the Task form.

From the Task form, a BMC Configuration Management task is initiated. After the task completes, it uses the TMS_TaskInterface web service to return a Return Code Value to the Task form. This return code value causes the Task form to query the Return Code Configuration form to determine the specified Status and Status Reason values to use for the particular Return Code value.

To configure a return code value

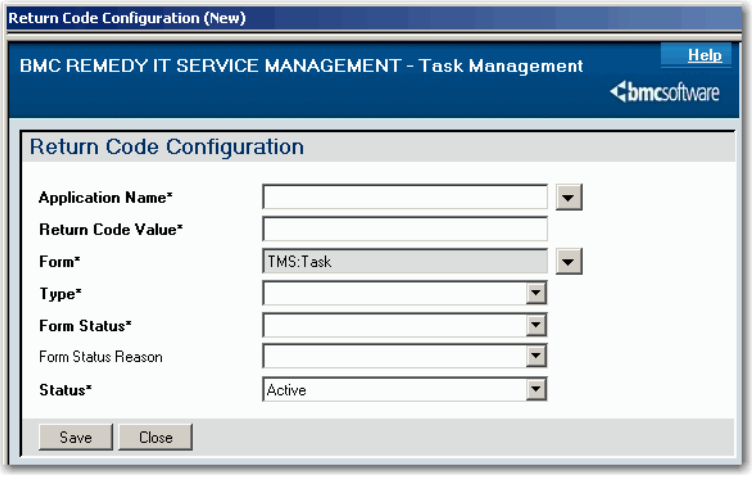
1. Open the IT Home page using Task Administrator or Task Application Config permissions.

   For more information, see "Logging in to the Task Management System" on page 26.

2. Click the Application Administration Console link.
3. Click the Custom Configuration tab.
4. From the Application Settings list, choose Task Management System > Integration > Return Code Configuration, and then click Open.

   The Return Code Configuration form appears.

Figure 2-3: Return Code Configuration form



5 To view a list of preconfigured return codes, click the New Search toolbar button, enter any search parameters, and then click Search.

You see a list of preconfigured values.

6 Do any of the following steps:

- Select an entry to view it and modify it, if necessary.
- Click the New Request button on the toolbar, and configure new values.

7 Modify or enter values in the following fields:

Field Name	Description
Application Name	The application that returns the value, for example, BMC Configuration Management.
Return Code Value	A value in the Return Code Value field, for example, Success, Error, Failure, and so on.
Form	This field is set to TMS:Task.
Type	A runtime task type, for example, Manual, Automatic, or ALL. Select ALL if the return code applies to both types.
Form Status	A value for the status of the Task form when the specified return code value is returned, for example, Closed.
Form Status Reason	A value for the status reason of the Task form when the specified return code value is returned, for example, Success.
Status	An overall status for this entry. The options are Active, Inactive, or Proposed.

8 Click Save.

9 Follow step 7 to configure as many return code values per application as necessary, and then save your changes.

Chapter

3 Configuring assignments

You can configure task assignments based on company information, and product and operational categorization. Moreover, you can define assignments by task templates.

The following topics are provided:

- Using assignment configuration processes (page 42)
- Setting up individual assignments for task templates (page 43)

Using assignment configuration processes

Using Remedy Assignment Engine, you can define which assignment engine process to use. The shipping application includes one preconfigured assignment configuration process that administers and controls individual assignment on a Global basis—Task Assignment Round Robin. You could modify the preconfigured data or add new processes for companies, as needed.

You can also specify operational and product categorizations.

▶ To use assignment configuration processes

1. Open the IT Home page using Task Administrator or Task Process Config permissions.

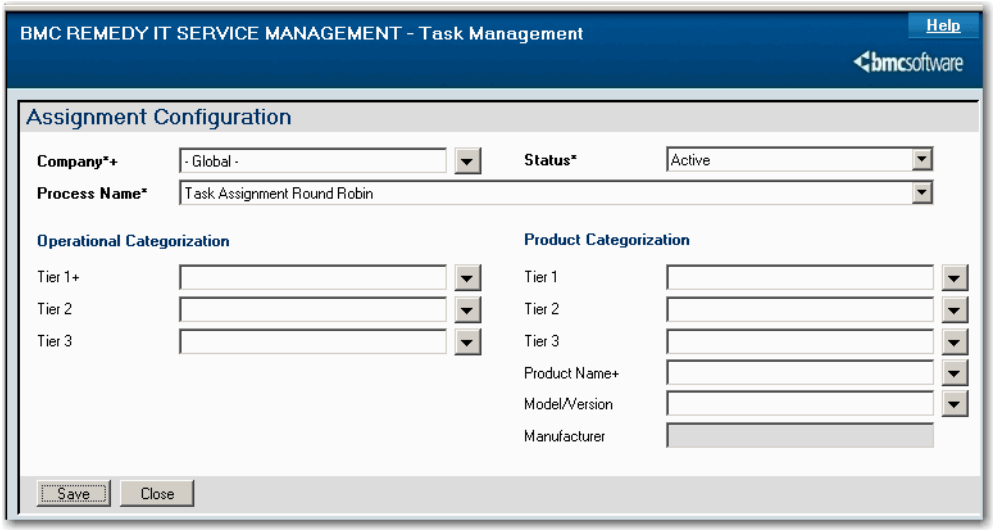
   For more information, see "Logging in to the Task Management System" on page 26.

   ASE-Administrator permission is also required to configure assignments. For more information, see the *BMC Remedy IT Service Management 7.0 Configuration Guide*.

2. Click the Application Administration Console link.
3. Click the Custom Configuration tab.
4. From the Application Settings list, choose Task Management System > Assignment > Assignment Configuration, and then click Open.

   The Assignment Configuration form appears.

Figure 3-1: Assignment Configuration form



5 Search for an existing assignment configuration record to which you want to add assignment information, or add assignment configuration information to a new entry.

Best Practice

6 To view the one preconfigured round-robin task assignment process, select an entry, and then click View.

7 To create new processes, see the *BMC Remedy Action Request System 7.0 Configuring* guide.

8 Close the form when you are finished.

Setting up individual assignments for task templates

When you create task templates, you can define individual assignment information in the Assignment tab of the Task Template form. You can use auto-assignment for assigning tasks to individuals if you select a process name as an Assignment Type.

If you do not choose to specify assignment information, the settings defined in the Assignment Configuration form are used.

To set up individual assignments for a task template

1 Open the IT Home page using Task Administrator permissions.

For more information, see "Logging in to the Task Management System" on page 26.

2 Click the Application Administration Console link.

3 Click the Custom Configuration tab.

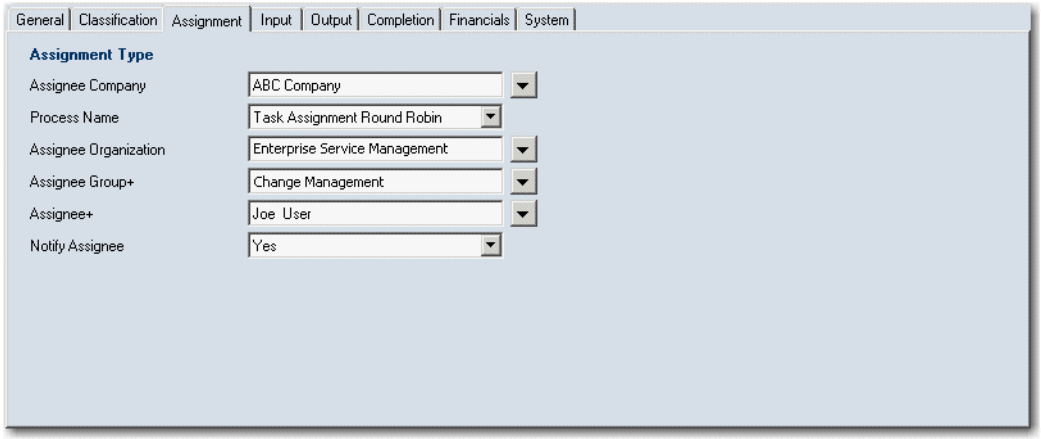
4 From the Application Settings list, choose Task Management System > Task Configuration > Task Template, and then click Open.

The Task Template form appears.

5 Search for an existing task template record to which you want to add assignment information, or add assignment information to a new entry.

6 Click the Assignment tab.

Figure 3-2: Task Template form—Assignment tab



7 Modify or enter information in these fields:

Field Name	Description
Assignee Company	Select the assignment company to which this template applies.
Process Name	Select the process that is used for individual auto-assignment.
Assignee Organization	Select the organization that handles the assignment for this task template.

Field Name	Description
Assignee Group	Select an assignee group for this task template.
Assignee	Select an individual from the assignee group.
Notify Assignee	Select whether the individual should be notified of the task assignment. Notification is based on the notification method specified in the individual's People record.

8 Click Save.

Chapter

4 Working with templates

For greater productivity, the Task Management System System allows you to create task templates or group task templates within task group templates. Users can reuse these templates at runtime during the fulfillment of a change request or while resolving an incident or problem.

This section provides information about how to set up task templates and task group templates.

The following topics are provided:

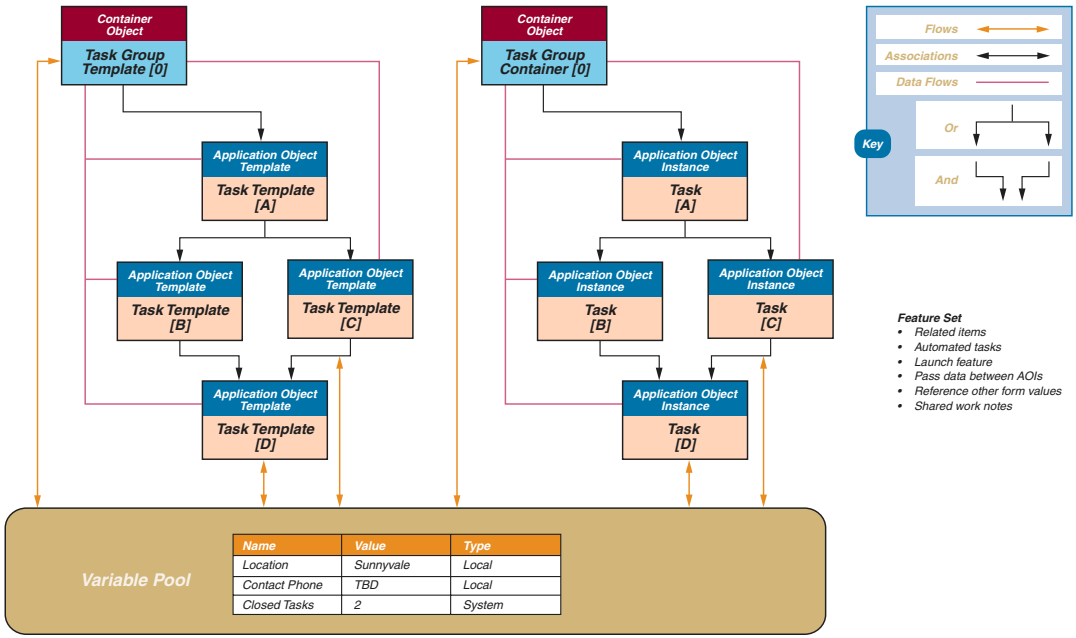
Defining templates—Overview

During the definition phase, the task administrator can create various templates for later use during the execution phase. There are three types of templates:

- Variable (See “Working with variable templates” on page 50.)
- Task (See “Working with task templates” on page 56.)
- Task group (See “Working with task group templates” on page 77.)

Figure 4-1 shows the relation among the templates you create during the definition phase and how those relationships are used at runtime during the execution phase. For example, the administrator designs an *advanced* task group template (Task Group Template [0]) that associates various task templates (Task Template [A], Task Template [B], and so on) in the definition phase. The task group template is designed according to a specific flow: Task Template [A] runs first, and then it branches to Task Template [B]and Task Template [C]. When they are completed, Task Template [D] starts.

Figure 4-1: Advanced template definitions in Task Management



The administrator adds the Task Group Template [0] task group template to any BMC Remedy application that runs on the 7.0 BMC Remedy Action Request System, for example, Change Management or some other application you have created.

At runtime, users of the Change Management application (for example, the change manager) can select the Task Group Template 0 task group template from inside a change request. The change manager assigns all the tasks to task users. When the task user begins working on Task [A] and finishes it, it is set to Closed. The next task user is then notified to start on Task Template [B]. When all the tasks are Closed or Canceled, the task group is set to Closed.

Predefined task group and task templates

The 7.0 Change Management application comes installed with the following predefined "best practice" task group and task templates that you can use out of the box for installing or deploying software and verifying task completion. These templates were specially created for the integration with BMC Configuration Management.

Other templates might have been added by your application administrator.

Create and Modify Policy with Closed Loop Verification	Task group that includes the following tasks: ■ Create and Modify Policy ■ Closed Loop Verification (automatically) You use this task group template when creating or modifying a BMC CM based policy. This template automatically performs a closed-loop verification to make sure that the task was executed properly.
Closed Loop Verification (automatic)	Automatic task that calls BMC Configuration Management Policy Manager to set up compliance parameters for Closed Loop Verification. It verifies the task automatically against compliance status.
Create and Modify Policy	Manual task that creates or modifies a policy using Policy Manager. It adds the CI and SLI using the Relationships feature on task.
Deploy Package	Manual task that deploys a package using BMC Configuration Management Deployment Manager. It adds the CI and SLI using the Relationships feature on task. Verification of a Deployment Manager task is based on the exit status of the Deployment Manager job itself.

Execute Remote Command	Manual task that executes a remote command using BMC Configuration Management Deployment Manager. Verification of a Deployment Manager task is based on the exit status of the Deployment Manager job itself.
Execute Remote Script	Manual task that executes a remote script using BMC Configuration Management Deployment Manager. You use the Task Attachments table to define the remote scripts to be used. Verification of a Deployment Manager task is based on the exit status of the Deployment Manager job itself.
Verify Target Status	Manual task for manually verifying the status of a target against BMC Configuration Management. You use this task to verify that a specified target is in compliance with the policies to which the target has been assigned.

Working with variable templates

Variables are pieces of data (for example, in a change request or an entry in the parent object) that are passed to and from task groups and tasks, and into flows in the TMS. This information can be recorded and used as the basis for making decisions in qualifications or as input for other tasks, task groups, and flows. Variable data can be generated automatically, or it can be supplied manually by resources working on the task.

Variable templates are the registration records that the task administrator creates and defines for variables in the Task Management System.

In the definition phase, the task administrator creates variable templates that are used for mapping in to or out of fields. Then, during the execution phase, these variables exchange data between the task group, task, or flow at runtime.

You can register any piece of information as a variable template. You give it a name and assign it a default value, if needed.

Important: A default value is not required in the variable template. Values in the variables can be dynamically assigned at runtime.

When data is created at runtime, the instantiation of the variable can have its value modified. However, the default values of the variable template itself are not modified.

There are three types of variable templates:

- **Global**—Used for data that is global to the system and across all requests, for example, all the applications in the 7.0 ITSM suite. Usually this type of variable is not written to, but it can be. These variables allow general, shared data to be stored across the organization. Examples include the name of the company.
- **System**—Used for characteristics of the entire request that are automatically available. These are usually pieces of information that are common to all types of requests, but have a unique value.
- **Local**—Used for data within a specific context, for example, within the flow of a task, task group, or flow. Their value exists only within the context in which they are used, not across the request. For example, although a variable can be used across different task groups in a request, its value is unique for each task group.

Each variable template has the option to be global or associated with a specific company. If you specify a company, your variable template can be further classified using a category and subcategory that shows the integrating system.

The values of variables inside a task group, task, or flow are initialized by the input variables of the task group.

Any task, task group, or flow can access any variable value. If no value exists for a variable, its value is returned as NULL.

For example, the Create or Modify Policy with Closed Loop Verification task group template automatically performs a "closed loop" verification to make sure that the task was executed properly. The advanced task group template here is a container for the two associated task templates. Its main purpose is to provide flow between the two task templates, which also helps in passing data along for the variables to use.

The two task templates in the task group template use several variable templates when creating or modifying a BMC Configuration Management policy in the following flow:

Step 1 The Create or Modify Policy - BMC CM Policy Manager task template has an output variable defined that, at runtime, passes the current Task ID of the task into the Prior Task ID variable.

Step 2 The Closed Loop Verification (automatic) task template has Prior Task ID mapped as an input variable to a field on the Data tab of the runtime task. When the first manual task completes successfully and the automatic task is started, the Prior Task ID is passed in and used in this task's processing.

This particular scenario uses the Prior Task ID as a variable because BMC Policy Manager must retrieve information from the previous manual task for the automatic task to work successfully.

For a helpful overview of the CCM solution, see the *BMC Remedy Change Management 7.0 User's Guide*.

Note: Four predefined "best practice" variable templates are automatically installed with Change Management for integration with BMC Configuration Management. As an administrator, you can predefine additional variable templates to use with Change Management.

Creating variable templates

Use the following steps to create a predefined variable template.

▶ To create a variable template

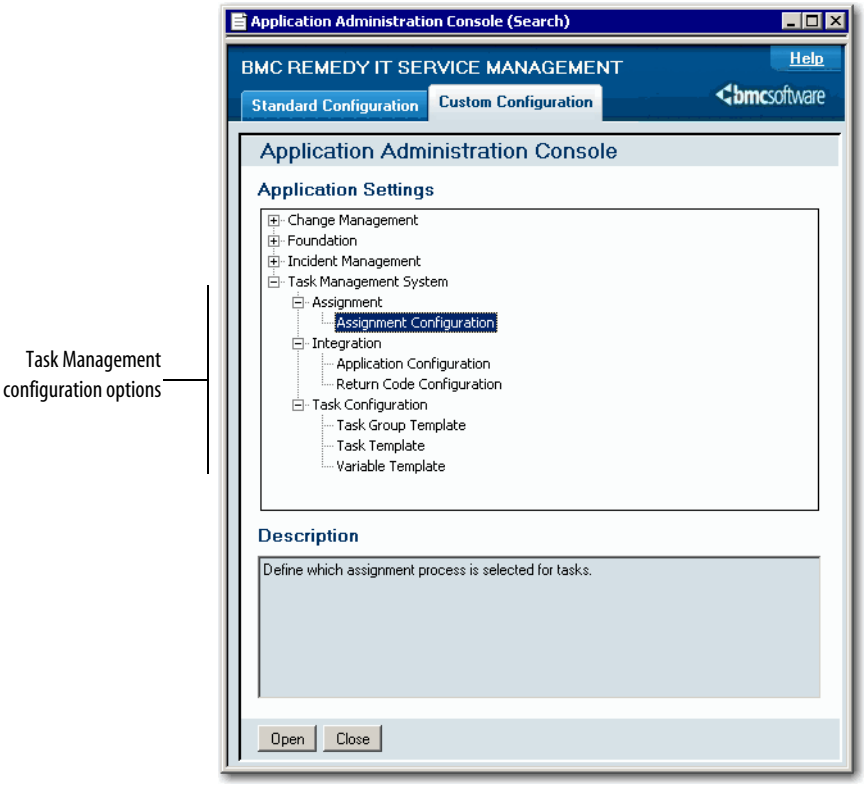
1 Open the IT Home page using Task Administrator or Task Application Config permissions.

For more information, see "Logging in to the Task Management System" on page 26.

2 Click the Application Administration Console link.

3 Click the Custom Configuration tab.

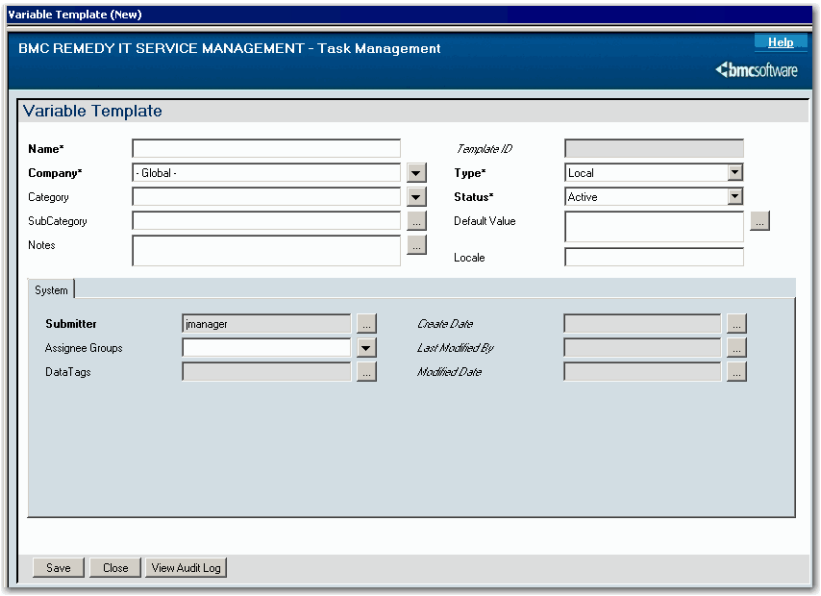
Figure 4-2: Application Administration Console



4 From the Application Settings list, choose Task Management System > Task Configuration > Variable Template, and then click Open.

The Variable Template form appears.

Figure 4-3: Variable Template form



Note: If sample data has been installed, you might want to search for existing variable definitions to modify.

5 Fill in the required fields (field names in bold with an asterisk):

Field Name	Description
Name	The name to assign to the variable.
Company	The company to which this variable applies. Select Global if the variable applies to *all* companies.
Type	The type of variable you are defining. The options are: Local, Global, and System. **Note:** After you have created and saved a variable template, you cannot change its variable type.

Field Name	Description
Status	The status of the variable. The options are: ■ **Active**—Enables the template for use during the execution phase. ■ **Inactive**—Deactivates the template. Inactive objects cannot be used at runtime. Usually, you set an object to Inactive when it is no longer used at runtime, but might be needed again in the future. When it is needed again, you can reset it to Active. ■ **Potential**—Puts the template into inactive status. You can design the template without activating it.

6 Fill in the optional fields:

Field Name	Description
Category	The application to which group of templates this one belongs. The menu is data-driven by active records in the Integration Configuration form. For information, see "Configuring integrations" on page 33.
SubCategory	An optional subcategory description.
Notes	A description of the variable template's function or any other helpful text for future administrators and designers.
Default Value	The data value that you want the variable to store by default. You can leave this field empty.
Locale	The locale to which this template is applicable.

7 Click Save.

Working with task templates

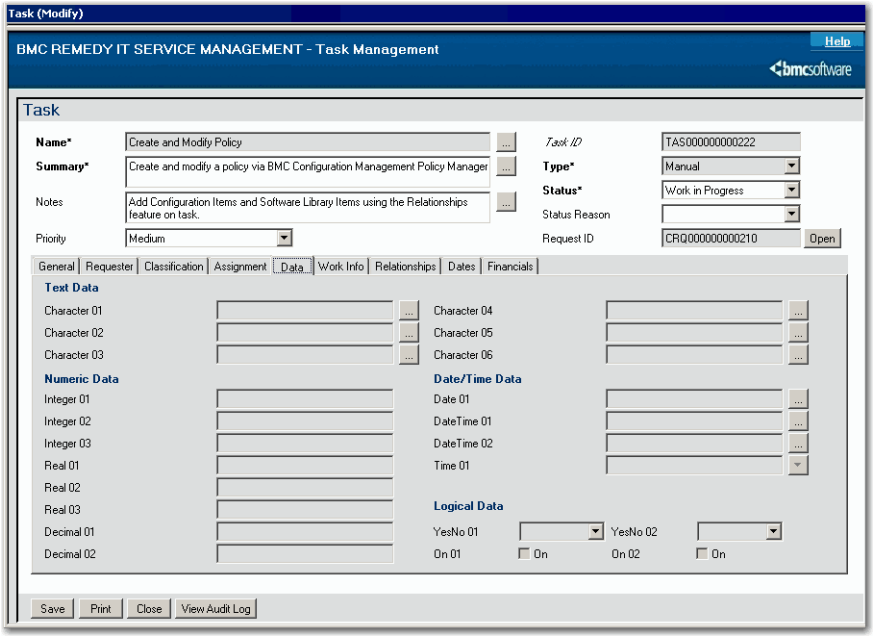
Tasks consist of a combination of the following components:

- An automatic action that runs by itself and must be carried out
- A specified action that must be accomplished
- Data that is entered or mapped in the form of input variables
- Data that is written from the task to another task or task group in the form of output variables

These components are configured within the *task template*.

A *task template* defines a unit of work that carries out a single step in handling a change. At runtime, task templates are generated as tasks. In the execution phase of a task, the Task form at runtime displays an extra tab labeled Data. This Data tab makes available a pool of fields (for example, Character01, Character02, and so on) that you can dynamically use with variable templates.

Figure 4-4: Task form at runtime—Data tab



The 7.0 ITSM applications—Change Management, Incident Management, and Problem Management—integrate different amounts of the task management subsystem (TMS) functionality. The BMC Configuration Management integration is launched from within Change Management.

The task is the main action component of the TMS—all the work that is done toward managing and implementing a change request at runtime is carried out through tasks. In short, a task is a unit of work that is completed as a step in implementing a change request.

There are two distinct types of task templates that the administrator can create:

- **Manual**—In which an action is performed by a person, for example, replacing a cable.
- **Automatic**—In which a predefined instruction is automatically executed by the task.

At runtime, you can generate tasks in the following ways:

- Automatically as part of a task group or a change request. For example, if a change occurs and the change manager selects a task group, any tasks that are contained within the task group are generated according to how the flow has been defined.
- By selecting from a list of task templates. For example, if a change occurs for which no task group has been defined, the change manager still has access to all defined task groups and task templates.

  However, if the task template has its Visible value set to No, it cannot be directly selected at runtime.

You can specifically create an ad hoc task to perform some action during a change where no defined task template is appropriate.

For additional information about creating tasks at runtime, see "Viewing tasks at runtime" on page 115

Note: Six predefined "best practice" task templates are automatically installed with Change Management for integration with BMC Configuration Management. As an administrator, you can predefine additional task templates to use with Change Management.

Creating a task template

You create a predefined task template by completing the following procedures:

- “Opening the Task Group Template form” on page 82
- “Entering information in the top pane of the form” on page 59
- “Entering information in the General tab” on page 61
- “Classifying the Task Template form” on page 64
- “Defining assignments for the task template” on page 65
- “Mapping input and output variables” on page 67
- “Defining automatic commands” on page 69 (For automatic tasks only)
- “Defining qualifications for task completion” on page 71
- “Specifying financial information” on page 73

Opening the task template form

You use the following steps to open the task template form.

▶ Opening the task template form

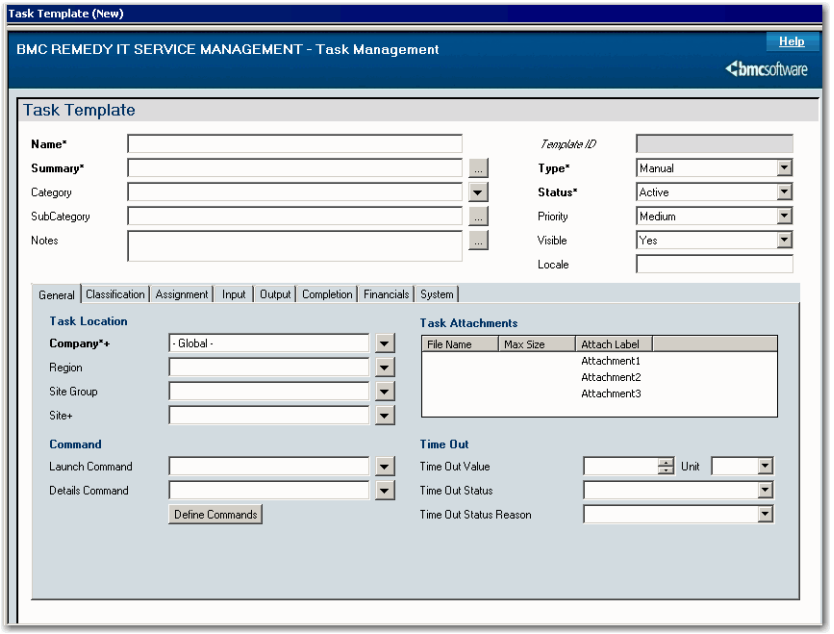
1. Open the IT Home page using Task Administrator permissions.

   For more information, see “Logging in to the Task Management System” on page 26.
2. Click the Application Administration Console link.
3. Click the Custom Configuration tab.

4 From the Application Settings list, choose Task Management System > Task Configuration > Task Template, and then click Open.

The Task Template form appears.

Figure 4-5: Task Template form



Entering information in the top pane of the form

Here you define important task template details, for example, the type of task or the application it applies to.

▶ To enter information in the top pane of the form

1 Open the Task Template form, as described in "Opening the Task Group Template form" on page 82.

2 Fill in the required fields (field names in bold with an asterisk):

Field Name	Description
Company	The company to which this variable applies.
Name	The name of the task template.

Field Name	Description
Summary	A brief description of the purpose of this task template.
Type	The type of task template. The options are: ■ **Manual**—Requires a person to take a certain action. Usually, the person is notified of their assigned task. ■ **Automatic**—Performs automatic action, for example, rebooting a server. If you select this option, you must specify an automatic command on the Automatic tab before you can save the task template. For more information, see "Automatic task approvals" on page 75.
Status	The status of the task template. The options are: ■ **Active**—Enables the template for use during the execution phase. ■ **Inactive**—Deactivates the template. Inactive objects cannot be used at runtime. Usually, you set an object to Inactive when it is no longer used at runtime, but might be needed again in the future. When it is needed again, you can reset it to Active. ■ **Potential**—Puts the template into inactive status. You can design the template without activating it.

3 Fill in the optional fields:

Field Name	Description
Category	The application to which group of templates this one belongs. The menu is data-driven by active records in the Integration Configuration form. For information, see "Configuring integrations" on page 33.
SubCategory	An optional sub-category description.
Notes	A description of the variable template's function or any other helpful text for future administrators and designers.

Field Name	Description
Priority	The priority of the task template. The priority is applicable during the execution phase.
Visible	Indicates whether this template is visible or hidden to the user for selection during the execution phase.
Locale	The locale to which this template is applicable.

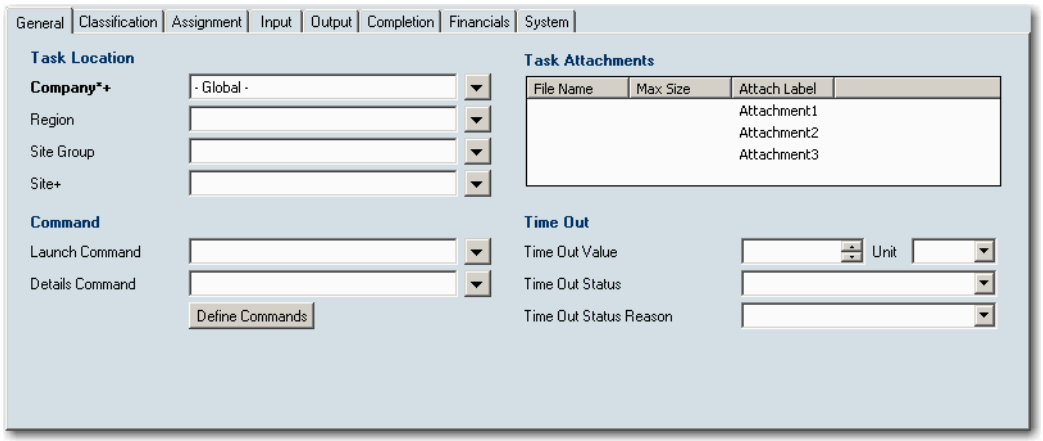
4 Click Save.

5 Continue setting up the Task Template form with the following procedure, "Entering information in the General tab" on page 61.

Entering information in the General tab

From the General tab, you can specify commands and their parameters, and if the task template is global or used by a specific company.

Figure 4-6: Task Template form—General tab



To enter information in the General tab

1 Click the General tab, if necessary.

2 Enter the following information:

Field Name	Description
Task Location area (Required)	Company information in the Task Location fields. This task template is specific to the company you select. The Region, Site Group, and Site fields are dynamic, which means that the values you can select from these fields are dependent on the previous selection.
Time Out	The time out value, status, and status reason for the time out. The time out value is applied to the Activate time field on the runtime objects. If this time out value is reached, then the Task or Task Group is set (by an escalation of ten minute intervals) to the predefined status value. **Note:** The clock stops when a Task or Task Group is in Pending status. The fields in the Time Out section are: ■ **Time Out Value**—The amount of time after which the task times out at runtime. ■ **Unit**—Use seconds, minutes, hours, or days. ■ **Time Out Status**—The status that is set when time out is reached. ■ **Time Out Status Reason**—A corresponding status reason for the status value, if applicable.
Task Attachments	Attachments that might be necessary for this task template. Attachments might be "how to" documents that helps the user complete the task when the template is used during the execution phase.

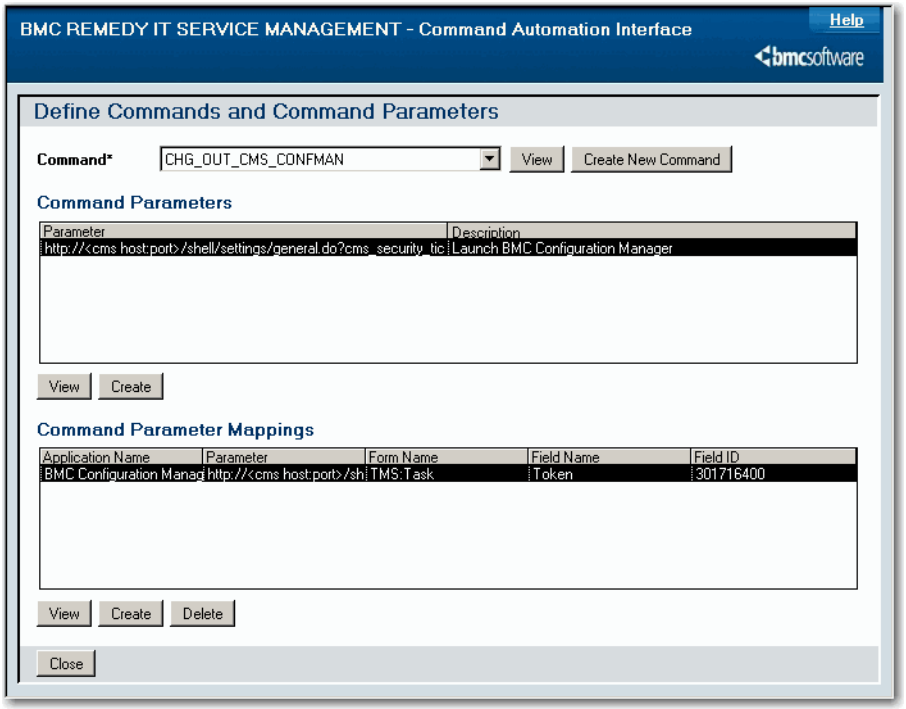
Field Name	Description
Command	A launch or details command that executes at runtime. Some best practice commands are provided for use when the Task Management System is being used with the BMC Configuration Management applications. Additional commands can be defined for any other third-party application. A Launch Command is, for example, the `TMS_OUT_CMS_POLICYMGR` used with the BMC Configuration Management Policy Manager task template. A Details Command is, for example, the `TMS_OUT_CMS_CHKCOMPLIANCE_STATUS` used with the Closed Loop Verification task template to set up compliance parameters for Closed Loop Verification.

3 (Optional) Click the Define Commands button to view existing commands or create a new command.

Note: Applications for which commands are being defined *must* be registered in CAI.

The Define Command and Command Parameters dialog box appears.

Figure 4-7: Define Command and Command Parameters dialog box



Commands are defined and stored in the Command Automation Interface (CAI) forms. Every command consists of the following items:

- **Command**—Construct a command that is executed at runtime. Commands are static values, for example, "Send."
- **Parameter**—Construct a parameter for the command. Parameters are dynamic values that are defined at runtime from the Tasks form.

For more information, see the *BMC Remedy IT Service Management 7.0 Configuration Guide*.

4 Click Save.

5 Continue setting up the task template, as described in "Classifying the Task Template form" on page 64.

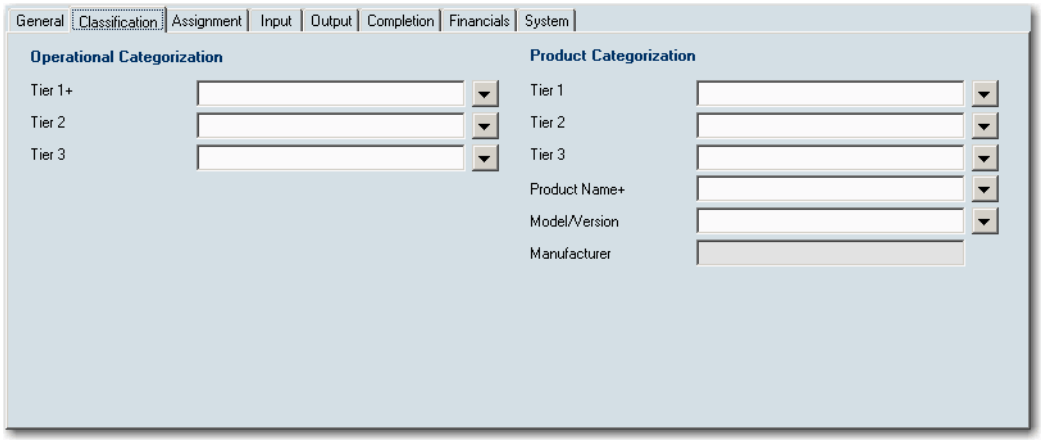
Classifying the Task Template form

You use the Classification tab to specify if the task uses product categorization or operational categorization values.

To classify the task template

1 Click the Classification tab.

Figure 4-8: Task Template form—Classification tab



2 Enter information in the following fields:

Field Name	Description
Operational Categorization	Values from the Operational Categorization lists to classify the task.
Product Categorization	Values from the Product Categorization lists to classify the task.

3 Click Save.

4 Continue setting up the task template, as described in "Defining assignments for the task template" on page 65.

Defining assignments for the task template

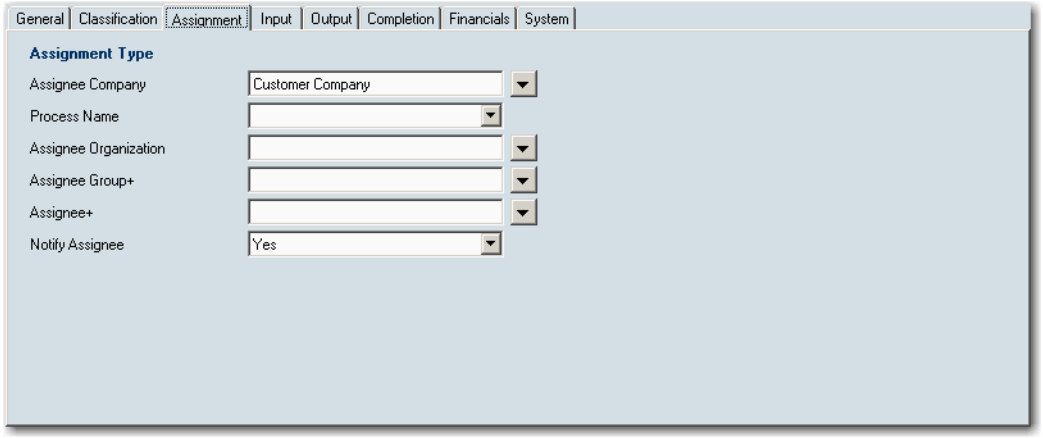
Use the Assignment tab to specify if the task template should be automatically assigned to a company, group, or individual. You can also specify if assignees should be automatically notified if a task is assigned to them.

For more information about task assignments, see "Configuring assignments" on page 41

To specify assignment information for the task template

1 Click the Assignment tab.

Figure 4-9: Task Template form—Assignment tab



2 Enter information in these fields:

Field Name	Description
Assignee Company	The company which is assigned runtime tasks from this task template.
Process Name	A process name for the task assignment. This is set up in the Assignment Engine for individual auto-assignment.
Assignee Organization	The organization from the selected company that is assigned this task.
Assignee Group	The group to which this task is assigned at runtime.
Assignee	The assignee to whom this task is assigned at runtime.
Notify Assignee	Whether the assignee should be notified of the task assignment. The notification method is specified in the individual's People record.

3 Click Save.

4 Continue setting up the task template form by creating input and output variables.

Mapping input and output variables

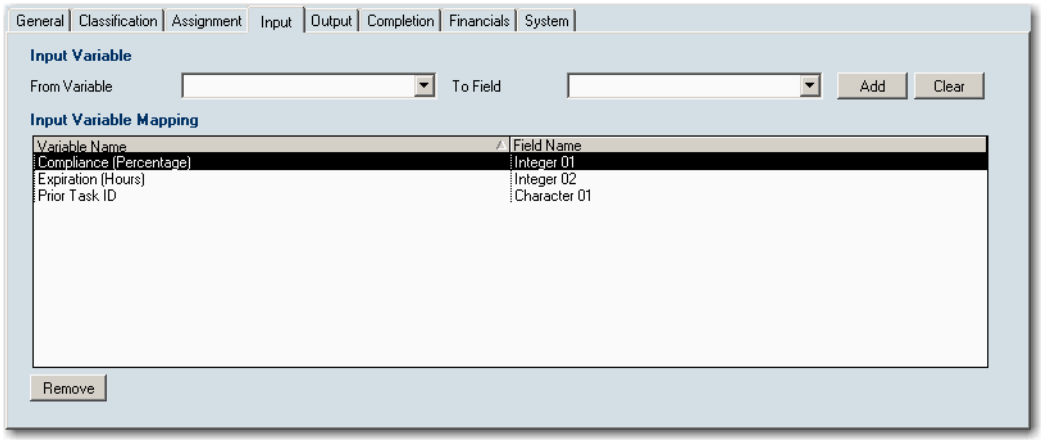
Variable mappings enable data to be passed in to and out of fields when the task is executed at runtime. To define variable mappings, you map an existing variable to or from a field. Unless you are using predefined variables, you must create variables before you can use them.

To map input variables

1 On the Task Template form, click the Input tab.

If any input variable mappings have been defined, they are displayed in the Input Variable Mapping table.

Figure 4-10: Task Template form—Input tab



2 Define the input variable mappings:

Field Name	Description
From Variable	The variable from which to map. Depending on the variable templates that were created, the options are: ■ Global ■ System ■ Local

Field Name	Description
To Field	The field to which to map the variable. In the execution phase, a pool of fields (for example, `Character01`) is available in the Data tab of the Task runtime form for variable usage. The list includes all the fields contained in the Task runtime form that you can map to. You generally should not map to Display Only fields. If you do so, the value assigned is not retained. For more information, see "Working with task templates" on page 56. **Note:** You *cannot* use a variable to pass an attachment into the Attachment Pool.

3 Click Add.

The variable mapping is displayed in the Input Variable Mapping table.

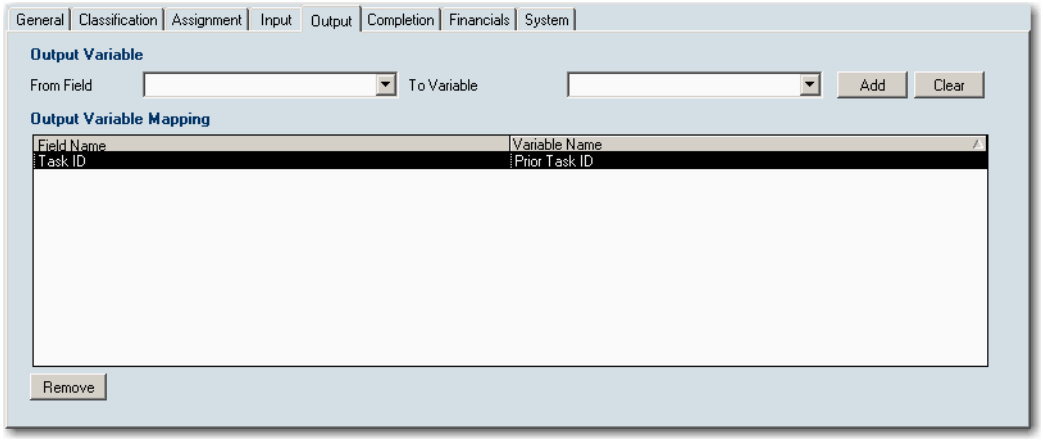
4 Continue creating input mappings, as necessary.

▶ To map output variables

1 Click the Output tab to create output variables.

If any output variable mappings have been defined, they are displayed in the Output Variable Mapping table.

Figure 4-11: Task Template form—Output tab



2 Define the output variable mappings:

Field Name	Description
From Field	The field from which to map the variable. The list includes all the fields contained in the Task runtime form that you can map from.
To Variable	The variable to which to map. For output variables, you can only map to Local. You *can* write to global variables, but this is not a typical practice.

3 Click Add.

4 Continue creating other output variables, as necessary.

5 Click Save.

6 Continue setting up the task template by defining automatic commands, as described in "Defining automatic commands" on page 69.

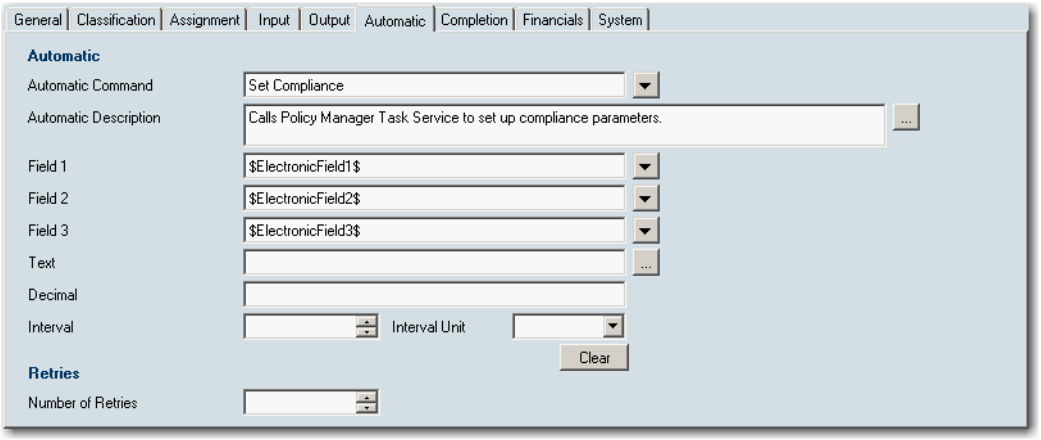
Defining automatic commands

The Automatic tab on the Task Template form appears only if the task template you are defining is for an Automatic task. If you select Automatic for Type, then the Automatic tab appears. You can also create an automatic task that queries fields for approval. For more information, see "Automatic task approvals" on page 75.

▶ To set up automatic commands

1 From the Task Template form, click the Automatic tab.

Figure 4-12: Task Template form—Automatic tab



2 Define automatic commands for this task template:

Field Name	Description
Automatic Command	A command, which is defined as a menu item. The following automatic commands are available: ■ Add Fields ■ Check Approval ■ Copy Field ■ Set Compliance—Best practice automatic task for BMC Configuration Management integration. ■ Set Decimal ■ Set Text ■ Subtract Fields **Note:** Commands are set up using the Command Automation Interface.
Automatic Description	A description of the automatic functions of this task, which guides how the template should be created. This field is populated when you select an automatic command. **Note:** Because the Automatic tab is not displayed in the runtime task, the Name, Summary, and Notes fields should describe what the automatic task does.

Best Practice

Field Name	Description
Field 1, Field 2, Field 3	(If applicable) The names of these fields that the automatic action requires input from or output to.
Text	Information about how the automatic action should be implemented and how it should behave.
Decimal	Enter a number to more directly determine the value to be used in an action.
Interval	Sets the `AutomaticIntervalTime` based on the interval defined, for example, 1. You use it in connection with the Unit field. For more information, see "Automatic task approvals" on page 75.
Interval Unit	Sets the `AutomaticIntervalTime` based on the unit defined, for example, Days, Hours, or Minutes. For more information, see "Automatic task approvals" on page 75.
Retries	Number of times this automatic task is retried in the Number of Retries field. (If you select Automatic for the task type, a field called Number of Retries appears on the Automatic tab. This feature allows an automatic task to be retried if it returns with a Return Code Value of `FAILURE`.)

3 Click Save.

4 Continue setting up the task template by defining completion qualifications, as described in "Defining qualifications for task completion" on page 71.

Defining qualifications for task completion

By default, a task is considered complete when it is run. When a task is complete, its status is Closed and its status reason is either Success, Canceled, or Failed. If you want other ways of determining whether a task is complete or successful, you can build qualification statements.

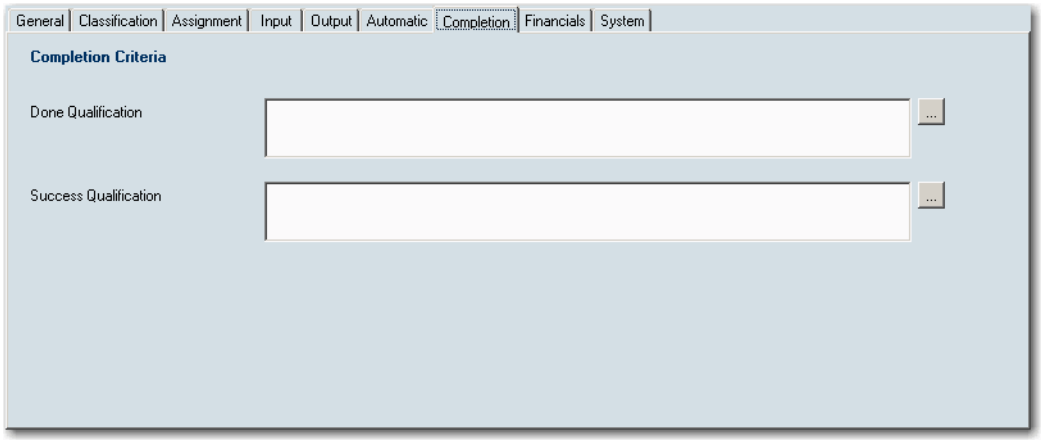
If the qualifications are not met, the task does not close. You set qualifications for task completion only if the task is automatic.

Note: If a task's status is set manually at runtime, then the settings defined here are overridden.

▶ To define qualifications for task completion

1 Click the Completion tab.

Figure 4-13: Task Template form—Completion tab



2 Build a qualification to indicate completion for this task template:

Field Name	Description
Done Qualification	A qualification statement that is used to evaluate whether the task is complete. A task is "done" when it is marked as Closed.
Success Qualification	A qualification statement that is used to evaluate if the task is successful.

3 Click Save.

4 Continue setting up the task template, as described in "Specifying financial information" on page 73.

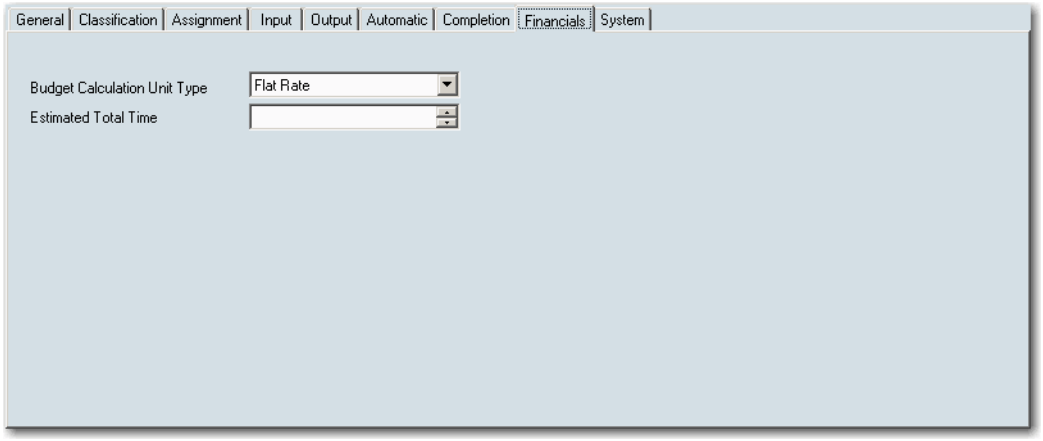
Specifying financial information

Your task template can include auto-cost estimates. You use this information to forecast the cost of the task. For example, you budget the change should take two hours to perform.

To specify financial information

1 Click the Financials tab.

Figure 4-14: Task Template form—Financials tab



2 Define financial details for this task template:

Field Name	Description
Budget Calculation Unit Type	How to measure the cost. Choices are Flat Rate, Hours, or Minutes.
Estimated Total Time	The time based on unit type.

3 Click Save.

4 Continue setting up the task template, as described in "Specifying usage information for task templates" on page 74.

Specifying usage information for task templates

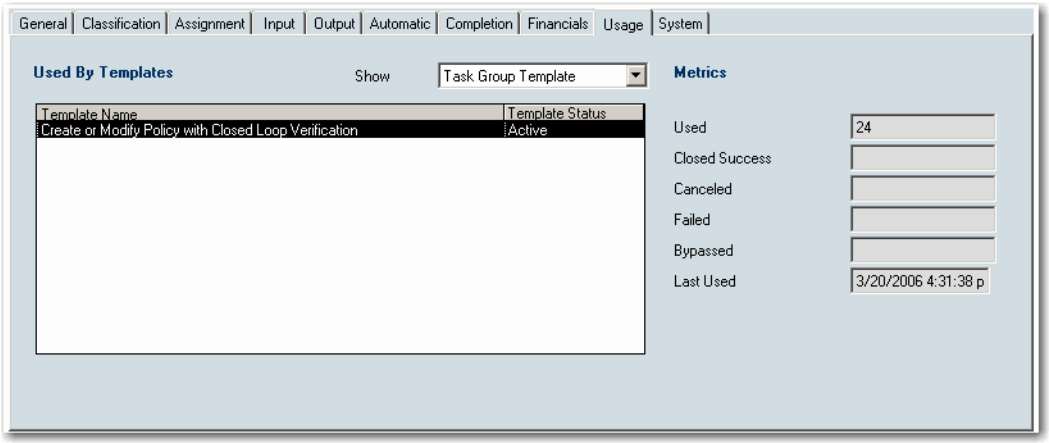
The Usage tab tracks whether the task template is being used by Task Group Templates, Parent Templates, or Request Templates. The metrics indicate how many times the template was used at runtime and some of the most important status values, for example, Last Used or Closed Success.

Note: The Usage tab does not appear until you save the task template.

▶ To specify usage information

1 Click the Usage tab.

Figure 4-15: Task Template form—Usage tab



2 From the Show menu, select Task Group Template, Parent Template, or Request Template (for example, Change Template).

The Used By Templates table displays other templates that are using the task template.

3 Click Save.

4 Continue setting up the task template, as described in “Specifying system information for task templates” on page 75.

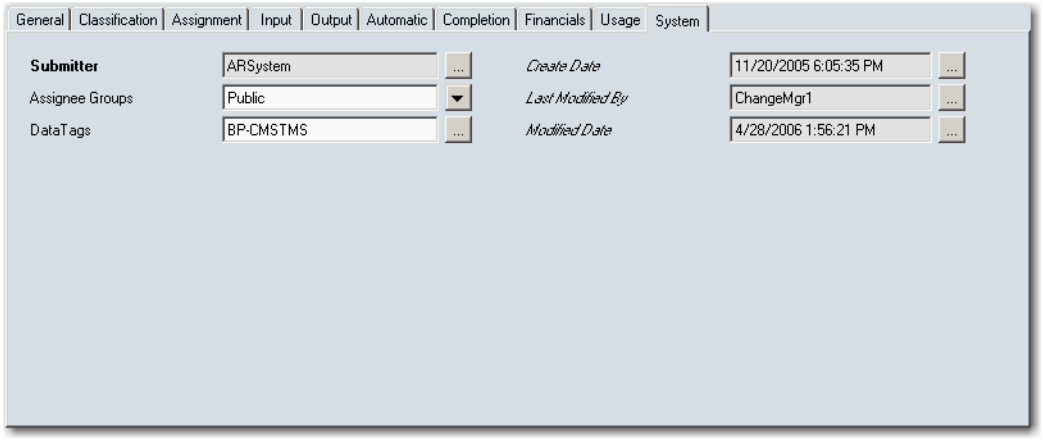
Specifying system information for task templates

The System tab displays internal information about the task template.

To specify system information

1 Click the System tab.

Figure 4-16: Task Template form—System tab



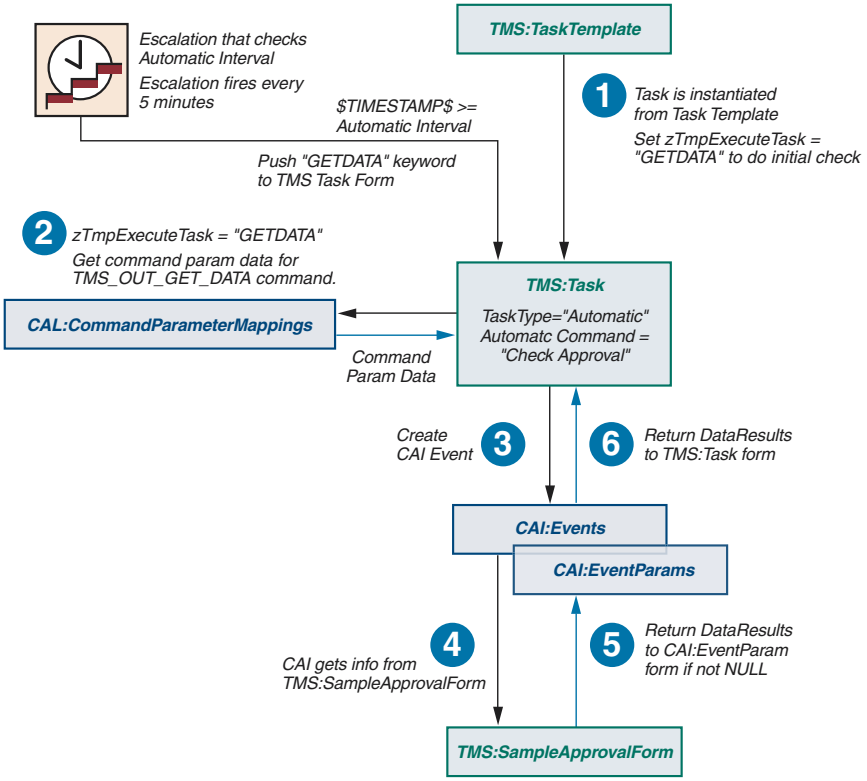
2 Close the form when you are finished examining the System tab.

Automatic task approvals

Users can create an automatic task that polls a specified field on a specified form to see if approval has been obtained (the assumption is that if the field on the form is not `NULL`, then approval has been granted). After approval is obtained, the automatic task is closed (Status = Closed and Status Reason = Success).

Figure 4-17 illustrates the flow of automatic task approvals.

Figure 4-17: Automatic task approval flow



After the task is instantiated and becomes active, an initial check is done to see if approval has been obtained. Approval checking is done through filters that set zTmpExecuteTask to CHECKAPPROVAL on the Task form. At the same time, the `AutomaticIntervalTime` is also set based on the Automatic Interval and Unit fields from the Task Template form.

If approval is obtained, then the task is closed and the `AutomaticIntervalTime` is set to `NULL`.

If approval is *not* obtained, then an escalation is sent every five minutes to check if the `AutomaticIntervalTime` is greater than (or equal to) the current time. If it is, then the escalation sets zTmpExecuteTask = CHECKAPPROVAL on the Task form, which starts the approval checking process. This is repeated indefinitely until approval is obtained, or the task times out (time out values must be set on the Task Template form for the time out to occur).

Working with task group templates

A task group template is a container object that contains tasks and other task groups. When you create a task group template, you must associate task and task group templates. Task group templates also support the use of variables.

There are two different types of task group templates:

- **Basic**—Uses sequencing to strictly specify the order of the tasks. For more information, see "Creating a basic task group template—Sequencing type" on page 78.
- **Advanced**—Uses a "flow" mechanism that establishes how the tasks relate to each other. For advanced task group templates, you can create flow between tasks and task groups to indicate how they behave at runtime. For more information, see "Creating an advanced task group template—Standard type" on page 82.

Before you create a task group template, you should create *all* the task and task group templates that it contains.

Note: One predefined "best practice" task group template is automatically installed with Change Management for integration with BMC Configuration Management. As an administrator, you can predefine additional task group templates to use with Change Management.

Creating a task group template—Overview

Create a predefined task group template by completing the following procedures:

- "Opening the Task Group Template form" on page 82
- "Entering information in the top pane and the General tab" on page 83
- "Creating associations" on page 86
- "Creating flow for task group templates—Advanced" on page 87 (For *advanced* task group templates only)
- "Defining qualifications—Advanced" on page 91 (for *advanced* task group templates only)
- "Mapping input variable mappings to task group templates" on page 93
- "Mapping output variable mappings to task group templates" on page 94
- "Defining operations for completing tasks—Advanced" on page 95 (for *advanced* task group templates only)
- "Defining Done and Success qualifications" on page 98

Creating a basic task group template—Sequencing type

Creating a "sequencing" type of task group template, offers users the most basic functionality of task group templates. Sequencing type task templates are also the easiest for administrators to create. The "sequence" of tasks in a basic task group template occurs in the strict order that the administrator defines. As a result, neither administrators nor users need to worry about complicated qualifications in the task flow.

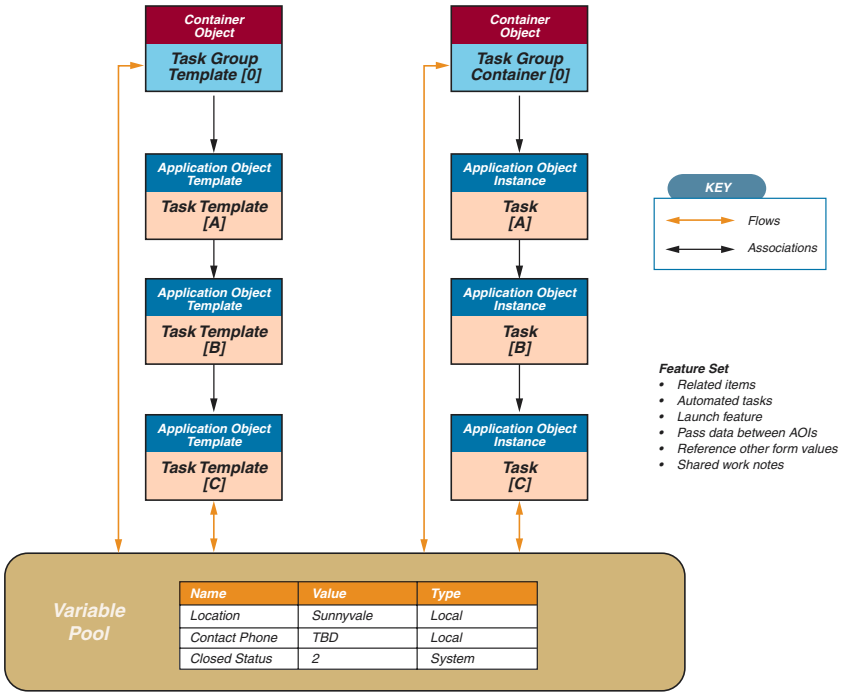
If needed, users *can* change the sequence at runtime.

Important: When you are designing your basic task group template, remember that task group templates can include task templates but also other task group templates. Adding task group templates to your basic task group template can easily complicate the sequence of tasks offered to the user.

This procedure assumes you already created variable and task templates to include in your basic task group template. For more information, see:

- "Working with variable templates" on page 50
- "Working with task templates" on page 56

Figure 4-18: Basic template definitions in Task Management



To create a basic task group template

1. Open the IT Home page using Task Administrator permissions.

   For more information, see "Logging in to the Task Management System" on page 26.

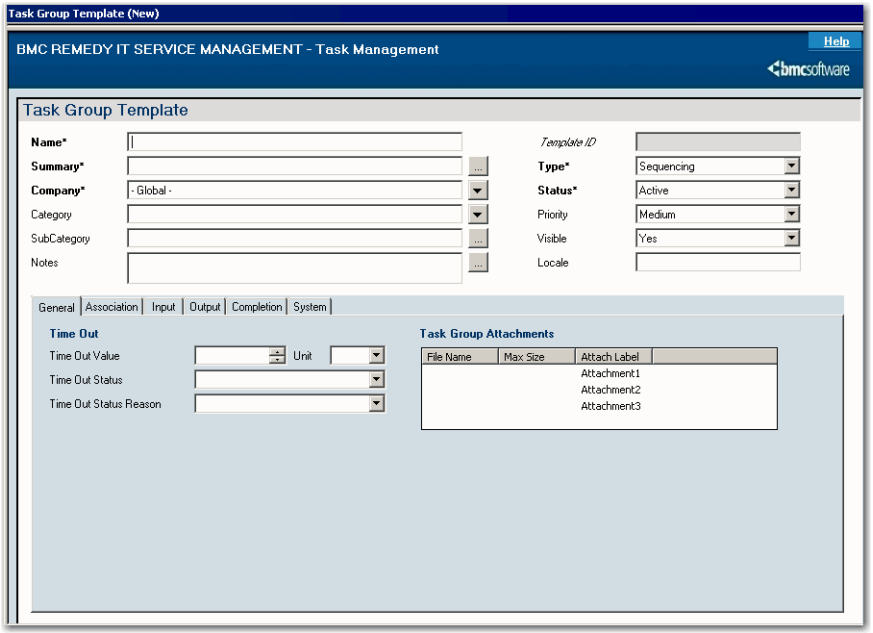
2. Click the Application Administration Console link.

3. Click the Custom Configuration tab.

4 From the Application Settings list, choose Task Management System > Task Configuration > Task Group Template, and then click Open.

The Task Group Template form appears.

Figure 4-19: Task Group Template form—Basic



5 Select Sequencing as the type of task group template.

This type of task group template contains task templates and task group templates where the sequence can be changed by the user during the execution phase at runtime.

Important: If you select the Sequencing (Basic) type of task group templates, the Flow and Operations tabs are not displayed on the Task Group Template form. Data that is not relevant for the Sequencing (Basic) type is cleared from the form.

6 Enter a Name, Summary, and Company in the required task group template fields.

7 In the Category field, select the application to which this task group template belongs, for example, Change Management System.

If you are creating your own parent object, you must create a configuration record. For more information, see "Configuring integrations" on page 33.

8 Click the Association tab.

9 Select the task templates and task group templates that your basic task group template should contain.

These task templates and task group templates are then *associated* with the basic task group template. At runtime, when a task group is generated, the associated task groups and tasks are generated to handle the change. For more information, see "Creating associations" on page 86.

10 Click the Input and Output tabs and add variable mappings.

Variable mappings enable data to be passed in to and out of fields when the task group is executed. To define variable mappings, you map an existing variable to or from a field. For more information, see:

- "Working with variable templates" on page 50
- "Mapping input variable mappings to task group templates" on page 93
- "Mapping output variable mappings to task group templates" on page 94

11 (Optional) Click the Completion tab.

By default, a task group is considered complete when all the task groups or tasks that it contains have run. When a task group is complete, its status is evaluated. This status can be either Success or Failed. By default, the task group is considered successful when all the task groups or tasks that it contains have a status of Success. If any do not have a status of Success, the task group has a status of Failed or Canceled. For more information, see "Defining Done and Success qualifications" on page 98.

12 Save your task group template.

Creating an advanced task group template—Standard type

The following section describes how to create advanced task group templates. The out-of-the-box task group template provided with the BMC Remedy ITSM 7.0 suite uses advanced type task group templates. Advanced task group templates provide a sophisticated flow mechanism that lets you define how task templates and task group templates relate to each other. Finally, you can also use operators to define task completion.

Opening the Task Group Template form

▶ To open a Task Group Template form

1. Open the IT Home page using Task Administrator permissions.

   For more information, see "Logging in to the Task Management System" on page 26.

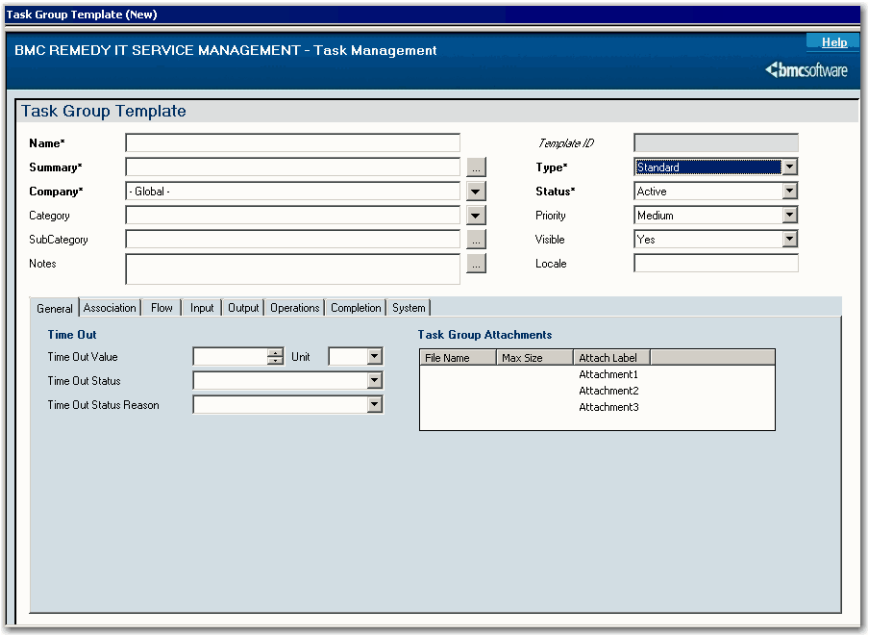
2. Click the Application Administration Console link.
3. Click the Custom Configuration tab.
4. From the Application Settings list, choose Task Management System > Task Configuration > Task Group Template, and then click Open.

   The Task Group Template form appears.

5. From the Type field, select Standard.

   Selecting Yes causes data relevant only for the Standard type to appear in the Task Group Template form, for example, the Flow and Operations tabs.

Figure 4-20: Task Group Template form—Advanced



Entering information in the top pane and the General tab

Here you define important task group template details, for example, the type of task group template (Standard) or the application it applies to.

Important: If you select the Standard (Advanced) type of task group templates, the Flow and Operations tabs are displayed on the Task Group Template form. These tabs are not displayed with the Sequencing (Basic) task group template. Data that is not relevant for the Standard (Advanced) type is cleared from the form.

▶ To enter information in the top pane and the General tab

1 Fill in the required fields (fields in bold with an asterisk):

Field Name	Description
Name	The name of the task group.
Summary	A brief description of the purpose of this task group template.
Company	A company name. This task group is available only to the company you select.
Type	The type of task. The options are: ■ **Sequencing**—This type of *basic* task group template contains task templates and task group templates where the sequence can be changed by the user during the execution phase. ■ **Standard**—This type of *advanced* task group template contains task templates and task group templates that executes in the flow defined by the task administrator. **Note:** Make sure you select Standard if you are creating an advanced task group template.
Status	The status of the group task template. The options are: ■ **Active**—Enables the template for use at runtime. ■ **Inactive**—Deactivates the template. Inactive objects cannot be used at runtime. Usually, you set an object to Inactive when it is no longer used at runtime, but might be needed again in the future. When it is needed again, you can set it to Active. ■ **Potential**—Puts the template into inactive status. You can design the template without activating it.

2 Fill in the optional fields:

Field Name	Description
Category	The application to which this group of task group templates belongs.
SubCategory	An optional sub-category description.

Field Name	Description
Notes	A description of the task group template's function or any other helpful text for future administrators and designers.
Priority	A priority for the task group template. The priority applies during the execution phase.
Visible	Indicates whether this template is visible or hidden to the user for selection during the execution phase.
Locale	The locale to which this template is applicable.

3 Enter information in the General tab:

Area Name	Description
Time Out	A time out value, a status, and status reason for the time out. The time out value is applied to the Activate time field on the runtime objects. If this time out value is reached, then the Task or Task Group is set (by an escalation of ten minute intervals) to the predefined status value. **Note:** The clock stops when a Task or Task Group is in Pending status. The fields in the Time Out section are: ■ **Time Out Value**—The amount of time after which the task times out at runtime. ■ **Unit**—Use seconds, minutes, hours, or days. ■ **Time Out Status**—The status that is set when time out is reached. ■ **Time Out Status Reason**—A corresponding status reason for the status value.
Task Group Attachments	Attachments that might be necessary for this task group template. Attachments might be "how to" documents that helps the user complete the task group when the template is used during the execution phase. You can add up to three attachments for each task group template.

4 Click Save.

5 Continue setting up the task group template by creating associations between the task templates and the task group templates that are contained in this task group template, as described in "Creating associations" on page 86.

Creating associations

When defining a task group template, you select the task templates and task group templates that it should contain to complete a certain action. These task templates and task group templates are then associated with the task group template and are called *associations*. At runtime, when a task group is generated, the associated task groups and tasks are generated to handle the task group.

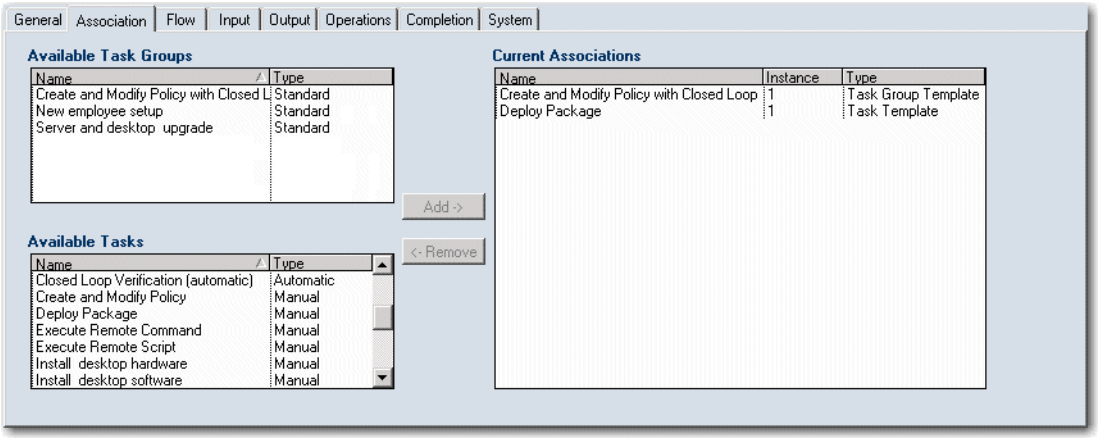
Important: All associated tasks and task groups that are built into a task group's flow follow the defined flow at runtime, unless you set up a Sequencing type of Task Group template.

After you have defined the associations, you can establish how they should interrelate at runtime by creating flow between them. For more information, see "Creating flow for task group templates—Advanced" on page 87.

▶ To define an association

1 Click the Association tab.

Figure 4-21: Task Group Template form—Association tab



All the task group templates and task templates that have been defined are listed in the Available Task Groups and the Available Tasks tables. If any have been selected, they are displayed in the Current Associations table.

2 From the Available Task Groups or the Available Tasks table, select a task group or task template to add to the task group template you are currently defining.

3 Click Add.

The task group template or task template is displayed in the Current Associations table.

4 Add more task group templates or task templates to this task group template by repeating steps 2 and 3.

Important: If you want the same task template or task group template to be used more than once at runtime, you must add it to the Current Associations table as many times as you want it used. When you add the same task template or task group template more than once, the number in the Instance column is incremented to indicate that this is a new instance.

5 To remove a task template or task group template from the Current Associations, select it and then click Remove.

6 Click Save.

7 Continue creating the task group template by defining the flow between the associations you just created, as described in "Creating flow for task group templates—Advanced" on page 87.

Creating flow for task group templates—Advanced

When you define an advanced task group template, you can establish how the associated task group templates and task templates relate to one another. This is called *flow*. The flow determines the sequence in which task group templates and task templates are generated at runtime. If the task group template contains other task group templates, these likely already have flow established between the task group templates or task templates that they contain.

A task group template's flow consists of one or more flow relationship records. Each flow relationship record consists of a task group or task template, called the *predecessor*, which is linked to another task group or task template, called the *successor*.

To indicate the first steps of the flow, you can use the Start record that is provided by the system and link it to a successor task group or task template. This successor is the first task or task group that is generated when this task template is invoked.

All active task group and task templates listed in the Current Associations table that are not identified as successors also are generated as soon as the task group template is invoked at runtime. Multiple instances of the same task or task group template without predecessors generate multiple instances of tasks or task groups at runtime.

To have two tasks start at the same time, you can mark them both as Start.

To have tasks or task groups occur simultaneously, you can link the same predecessor to more than one successor. To have more than one task or task group completed before a successor can start, you can link two or more predecessors to the successor. All predecessors must be completed before the successor task or task group can start.

When defining flows, make sure that you do not create loops. Be especially careful if you are linking more than one instance of the same task or task group template within the flow. Check the instance number of the task or task group in the Instance Number column to make sure that you are not linking to the same one.

All predecessors must be completed before the successor task or task group can start (unless the setting is changed to Any Complete in the Flow to Success When field in the Qualification tab of the Flow Template form).

You can also create a qualification that is used to determine how the flow should be generated. Qualifications use data supplied by input variables to determine the flow. Before you define a qualification, you must map variables to fields on the form. Then you can define the qualification against the fields.

For example, you can use the value retrieved from a question in a variable. The flow from the task loads the variable into a working field using the flow mapping on the flow details page. The qualification references the field.

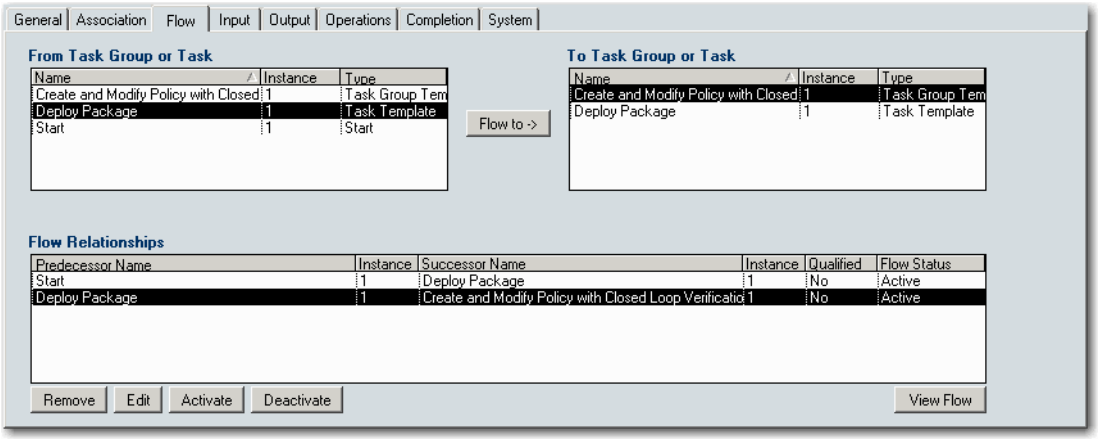
Note: The two special system variables, Predecessor Status and Predecessor Failure Code, are available only for flow. They do not require input variables to be defined.

All associated tasks and task groups that are built into a task group's flow follow the defined sequence at runtime.

To create flows among associations

1 Click the Flow tab.

Figure 4-22: Task Group Template form—Flow tab



All task and task group associations that were selected in the Association tab are displayed in both of the tables in the upper section of the tab. If any flow relationships have been defined, they are displayed in the Flow Relationships table. The first task usually follows the "Start" point.

Tip: To view any of the task groups or tasks in either of the tables in the upper section of the form, double-click the task group or task in the list. It is displayed in a dialog box. You cannot make any changes in this dialog box. You cannot open the Start record. You can double-click entries in the Flow Relationships table or select an entry and use the Edit button to open a Flow Template form where you can define properties for the flow.

2 Select Start from the From Task Group or Task table, then select which task template should be the starting point from the To Task Group or Task table, and then click Flow to.

   The flow relationship record is created and is displayed in the Flow Relationships table.

3 Select a task or task group in the From Task Group or Task table.

4 In the To Task Group or Task table, select the successor task group or task to be generated when the previous task is completed.

5 Click Flow to.

   The flow relationship record is created and is displayed in the Flow Relationships table.

6 If appropriate, define a qualification on the flow to limit when the flow is followed.

   For more information, see "Defining qualifications—Advanced" on page 91.

7 Create as many flow relationships as needed to build the entire flow for the task group template.

   All associated tasks and task groups that are built into a task group's flow follow the defined sequence at runtime.

8 Click Save.

9 Continue creating the task group template by defining input and output variable mappings, as described in "Mapping input variable mappings to task group templates" on page 93.

Defining qualifications—Advanced

If needed, you can create a qualification that is used in the advanced task group template to determine how the flow should be generated. Qualifications use data supplied by input variables to determine the flow. Before you define a qualification, you must map variables to fields on the form. Then you can define the qualification against the field.

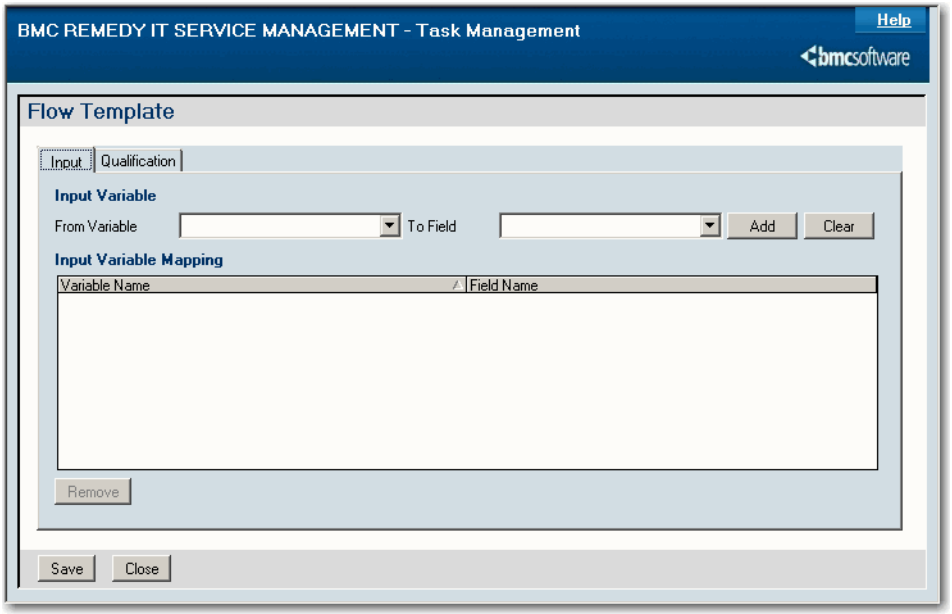
To define qualifications in advanced task group templates

1 Define the flow of templates, as described in "Creating flow for task group templates—Advanced" on page 87.

2 On the Flow tab, select the flow relationship, and then click Edit.

The Flow Template dialog box appears. You define a qualification for this flow.

Figure 4-23: Flow Template dialog box—Input tab



3 To define an input variable mapping, in the Variable Name field, select a variable. You can map Local, System, and Global variables.

For example, you might want to select the system variable holding the predecessor status so that the predecessor task can be checked.

For information about the different variables, see “Creating variable templates” on page 52.

4 In the To Field, select a field to map the variable data to.

5 Click Add.

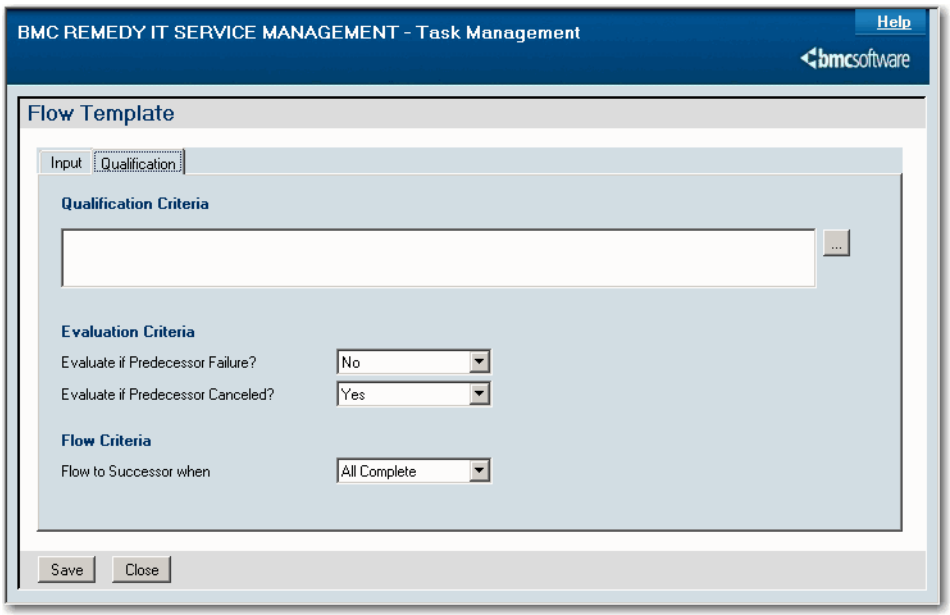
The mapping is displayed in the Input Variable Mapping table.

6 (Optional) Click Clear to remove the field and variable you had selected.

7 Add as many input variable mappings as you need for the flow.

8 Click the Qualification tab.

Figure 4-24: Flow Template dialog box—Qualification tab



9 In the Qualification Criteria text field, build a qualification statement to specify how the flow should be evaluated.

You can include fields in the qualification statement. For example, if you are building a qualification for a flow where you want to take another action if the task group fails, you would map the variable to the field and create the following qualification with the Predecessor Status system variable:

```
'Predecessor Status'="Failed"
```

10 In the Evaluate if Predecessor Failure field, select Yes or No to indicate if the qualification should apply if the task or task group’s predecessor has failed.

11 In the Evaluate if Predecessor Canceled field, select Yes or No to indicate if the qualification should apply if the task or task group's predecessor has been cancelled.

12 In the Flow to Successor when field, select a value:

- **All Complete**—Causes the successor flow to start only when all predecessors are complete.
- **Any Complete**—Causes the successor flow to start when any of the predecessors are complete.

13 Click Save.

Mapping input variable mappings to task group templates

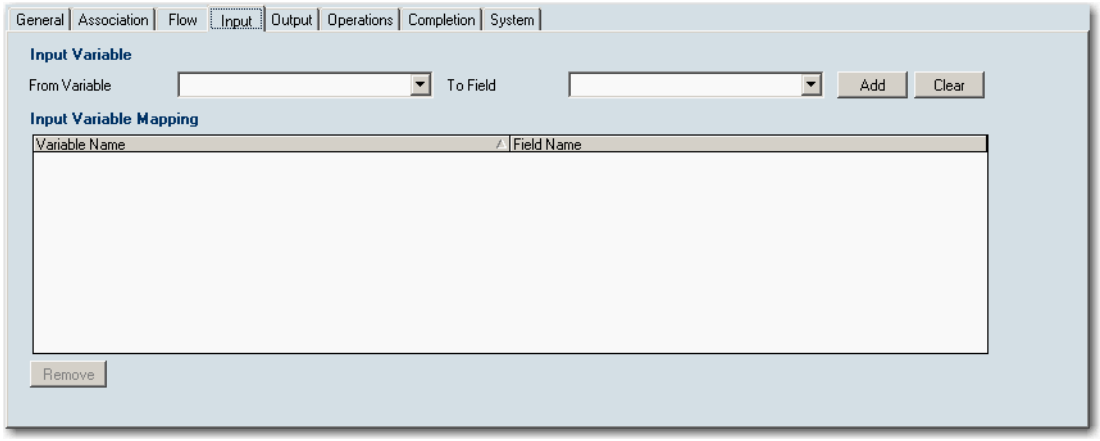
Variable mappings enable data to be passed in to and out of fields when the task group is executed. To define variable mappings, you map an existing variable to or from a field.

▶ To map an input variable mapping to a task group template

1 Click the Input tab.

If any input variable mappings have been defined, they are displayed in the Input Variable Mapping table.

Figure 4-25: Task Group Template form—Input tab



2 In the From Variable list, choose the variable to map.

3 From the To Field list, choose the field to relate the variable to.

In the execution phase, a pool of fields (for example, Character01) is available in the Data tab of the Task runtime form for variable usage. The To Field list includes all the fields contained in the Task Group runtime form. You generally should not map to Display Only fields. If you do so, the value assigned is not retained.

4 Click Add.

The variable mapping is displayed in the Input Variable Mapping table.

5 Continue creating as many input mappings as necessary.

6 Click Save.

7 Continue setting up the task group template by creating output variables, as described in "Mapping output variable mappings to task group templates" on page 94.

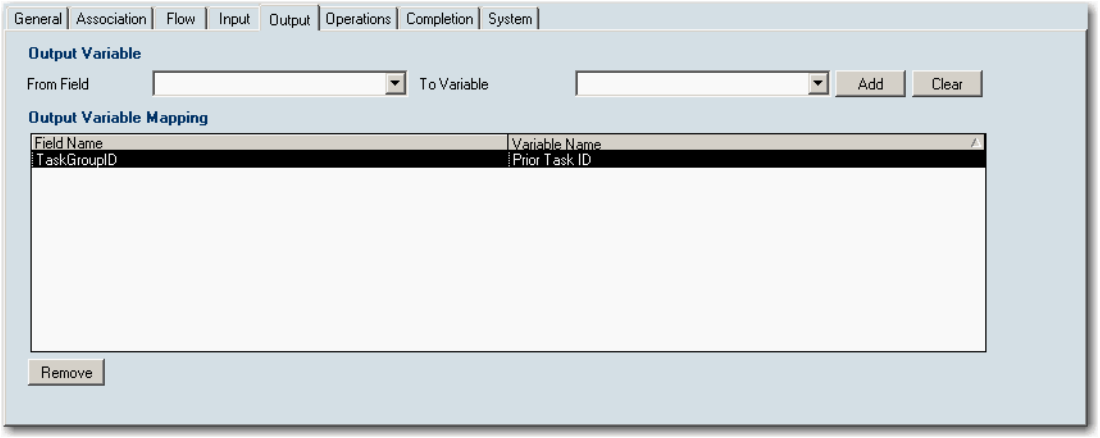
Mapping output variable mappings to task group templates

▶ To map an output variable mapping to a task group template

1 Click the Output tab.

If any output variable mappings have been defined, they are displayed in the Output Variable Mapping table.

Figure 4-26: Task Group Template form—Output tab



2 Click the From Field list.

The list includes all the fields contained in the Task Group runtime form.

3 In the To Variable list, choose the variable to map to.

For output variables, you can map only to Local and Global.

4 Click Add.

The variable mapping is displayed in the Output Variable Mapping table.

5 Continue creating output mappings as necessary.

6 Click Save.

7 Continue setting up the task group template, as described in "Defining operations for completing tasks—Advanced" on page 95.

Defining operations for completing tasks—Advanced

By default, a task group is considered complete when all the task groups or tasks that it contains have run. When a task group is complete, its status is evaluated. This status can be either Success or Failed. By default, the task group is considered successful when all the task groups or tasks that it contains have a status of Success. If any do not have a status of Success, the task group has a status of Failed or Canceled.

To use other ways of determining whether a task group is complete or successful, you can specify conditions that are used to evaluate the task group's status.

You can define operations that include statistical expressions and retrieve variable values. These can be used to gather data from a task group's associated task groups and tasks, and build this data into qualification statements for evaluating the task group's status. This data can be used to determine if the task group is complete and if it is successful.

Note: Operations are only supported for one of the Closed Status Reason values—Success, Failed, or Canceled.

When you create a statistical operation for a task group, you can use the following operators to gather data from the associated task groups or tasks:

Operator	Function
AVG	Calculates the average of a specified field across the associated tasks or task groups.
COUNT	Tallies the number of associated tasks or task groups.
MIN	Retrieves the minimum value for a specified field across the associated tasks or task groups.
MAX	Retrieves the maximum value for a specified field across the associated tasks or task groups.
SUM	Adds up the specified field across the associated tasks or task groups.
VARIABLE	Passes variable data from the child to the parent.

Each operation works on a child type of the available Task or Task Group that you define. If using the MIN, MAX, SUM, AVG, or COUNT operation, select a field from the task or task group template from to collect the data. If using the COUNT operation, choose a field like Task ID because this is guaranteed to have a value.

For the operation VARIABLE, a variable is selected, and it should be a variable that is written out (output from) of the child type of this task group.

Finally, select a Result field to store the operation result. The recommendation is to choose from the field pools on the Data tab in the runtime Task form.

The results from the operations run on the Task Group can be used in the Done or Success qualifications that determine if the task is completed or the data can be gathered merely for analysis.

At runtime, whenever an associated task or task group is changed to a completed status (Success, Failed, or Cancelled), the expression is applied and the task group is evaluated according to its qualification statements.

As you are building the expression, consider that fields in which you do not specify a value are considered as having a NULL value.

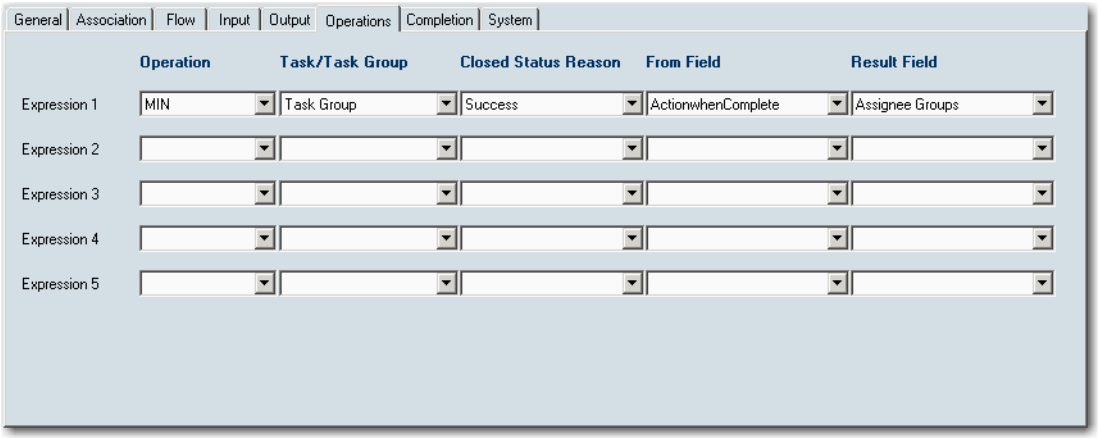
Consider the following information when creating an expression:

- To calculate all tasks or task groups, make sure that the From Field contains a value. It cannot be calculated if its value is NULL. For example, you might want to select the Request ID field (which always has a value) to COUNT all successful child tasks. If you choose a field that does not have a value in it, the count could be inaccurate.
- To calculate tasks or task groups where a particular field has been filled, you can select that field. If the field has not been filled when the task or task group is completed and the task group is evaluating, it has a value of NULL. The task or task group are not included in the calculation.

To define statistical operations for evaluating a task group

1 Click the Operations tab.

Figure 4-27: Task Group Template form—Operations tab



2 In the Expression 1 Operation field, select one of the operator values.

Choices are MIN, MAX, SUM, AVG, COUNT, and VARIABLE.

3 In the Task/Task Group field, select the type of associated object to evaluate.

Note: If you are creating an expression for a task group that contains both task groups and tasks and you want to gather data from both, you must create separate expressions for each. A single expression can be applied only to either a task or a task group.

---

4 In the Closure Status Reason field, select a status to include only those items in the specified status in the calculation. Leave this field empty to include all items, regardless of status.

5 In the From Field field, select the field from which to retrieve or calculate data.

6 In the Result Field field, select the field from the Task Group form that contains the value retrieved or calculated by the operation.

7 If appropriate, create further statistical operations.

8 Click Save.

9 Create a Done or Success Qualification statement that incorporates the Result Field, as described in "Defining Done and Success qualifications" on page 98.

Defining Done and Success qualifications

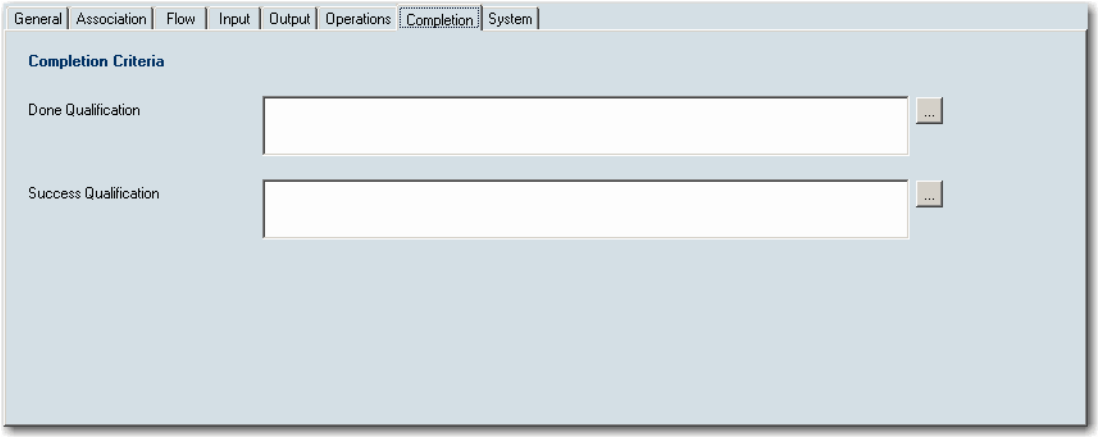
You can build qualification statements that are used to determine whether a task group is completed or successful.

You can incorporate the data gathered by statistical operations, as explained in "Defining operations for completing tasks—Advanced" on page 95. The data is used to determine the status of the task group.

▶ To define a Done or Success qualification

1 Click the Completion tab.

Figure 4-28: Task Group Template form—Completion tab



2 In the Done Qualification field, build a qualification statement to evaluate whether the task group is complete. You can use the Result Field entries from the Operations tab to build the qualification.

3 In the Success Qualification field, build a qualification statement to evaluate if the task group is successful. You can use the Result Field entries from the Operations tab to build the qualification.

4 Click Save.

Specifying usage information for task group templates

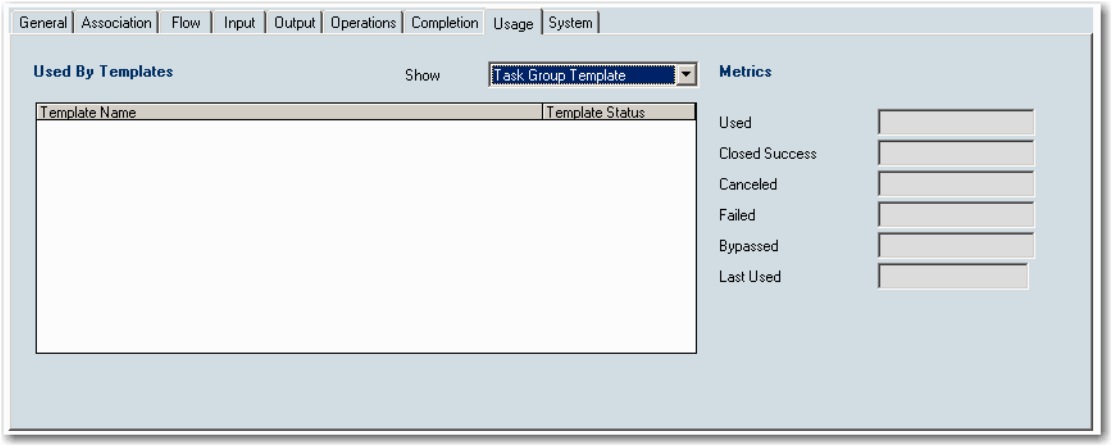
The Usage tab tracks whether the task group template is being used by Task Group Templates, Parent Templates, or Request Templates. The metrics indicate how many times the template was used at runtime and some of the most important status values, for example, Last Used or Closed Success.

Note: The Usage tab does not appear until you save the task group template.

▶ To specify usage information for task group templates

1 Click the Usage tab.

Figure 4-29: Task Group Template form—Usage tab



2 From the Show menu, select Task Group Template, Parent Template, or Request Template.

The Used By Templates table displays other templates that are using the task group template.

3 Click Save.

4 Continue setting up the task group template, as described in "Specifying system information for task group templates" on page 100.

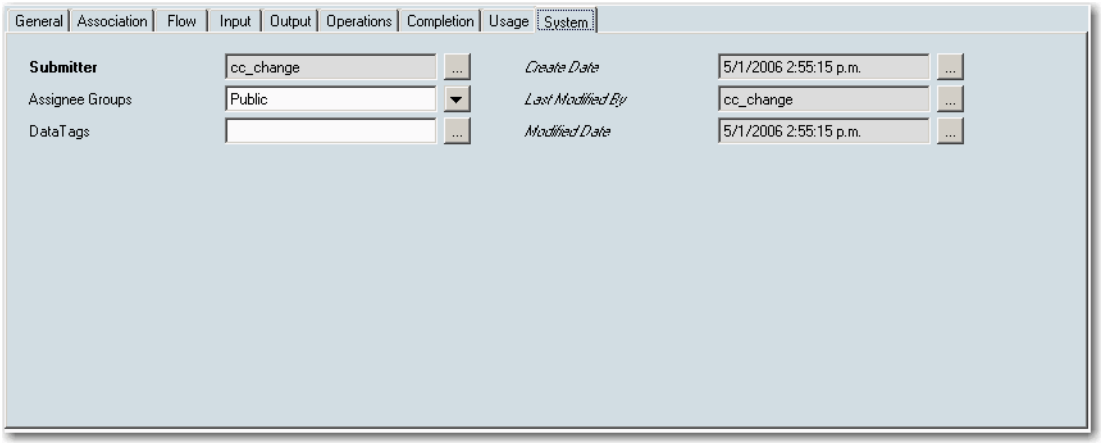
Specifying system information for task group templates

The System tab displays internal information about the task group template.

▶ To specify system information

1 Click the System tab.

Figure 4-30: Task Group Template form—System tab



2 Close the form when you are finished examining the System tab.

Chapter

5 Using TMS web services

The `TMS_TaskInterface` (TMS) web service performs task queries and update operations, including creating relationships and work information.

The following topics are provided:

TMS web services overview

The TMS web service facilitates the exchange of data between the Change Management and BMC Configuration Management applications.

The `TMS_TaskInterface` web service is used to allow BMC Configuration Management to query and update tasks. A back-end task web service interface form acts as a web service interface into the task entry. This form handles both returning values for queries from BMC Configuration Management and updating data directly to the task entry. It also handles updating data that is related to the task entry, such as work information or associations.

The `TMS_TaskInterface` web service is a complex web service with six operations. It is based on the `TaskInterface.xsd` XML Schema, which is also provided if customers want to extend it. For more information about web services, see the *BMC Remedy Action Request System 7.0 Integrating with Plug-ins and Third-Party Products* guide.

Six operations are available:

- `QueryTaskOnly`
- `QueryTaskPlusWorkInfo`
- `QueryTaskPlusRelationships`
- `QueryTaskPlusRelationshipsAndWorkInfo`
- `UpdateTaskOnly`
- `UpdateTaskAndWorkInfo`

In the four query operations and in the `UpdateTaskOnly` operation, the input parameter is the Task ID.

For `theUpdateTaskAndWorkInfo` operation, the main input parameter is the Task ID. Existing Work Info records can be updated if their Instance ID is provided. New Work Info records can be created if the Work Info Instance ID is omitted.

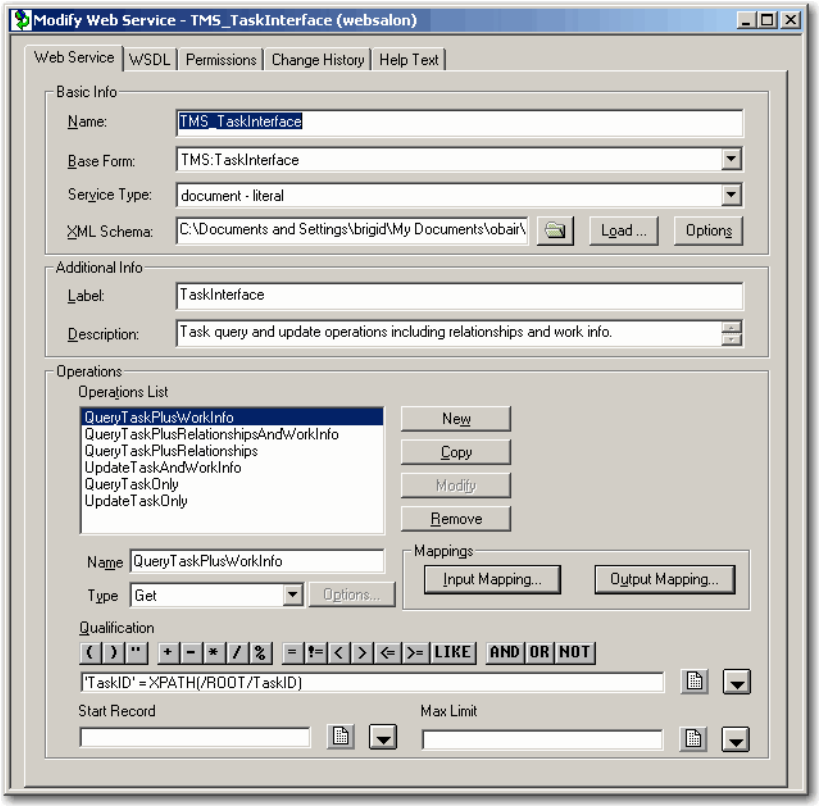
Viewing the TMS_TaskInterface web service

You can use BMC Remedy Administrator to open, view, and modify the `TMS_TaskInterface` web service.

To set up group assignments

1. Log in to BMC Remedy Administrator using AR System Administrator permissions.
2. Open a server window.
3. Select the appropriate server.
4. Select Web Services from the object list.
5. Open the `TMS_TaskInterface` web service.

Figure 5-1: TMS_TaskInterface web service



6 Modify the web service, if needed.

7 Close the web service.

For more information about web services, see the *BMC Remedy Action Request System 7.0 Integrating with Plug-ins and Third-Party Products* guide.

Chapter

6 Working with parent objects and parent application objects

The Parent Application Template and Parent Application Object are building blocks that provide examples of how you can integrate TMS with another application.

The following topics are provided:

Working with parent objects

TMS comes with sample parent application objects and parent application templates. You can create a task at runtime from a parent application template. These parent objects are containers that manage all the related associations and flows of their children.

The following topics are provided:

- Defining parent templates (page 106)
- Defining and interacting with parent application objects (page 108)

Defining parent templates

The parent template object is a container that emulates how another application's template supports the relationships to Task Templates and Task Group Templates and the information flows between them. This is similar to Task Group Template's relationships and flows.

▶ To define parent templates

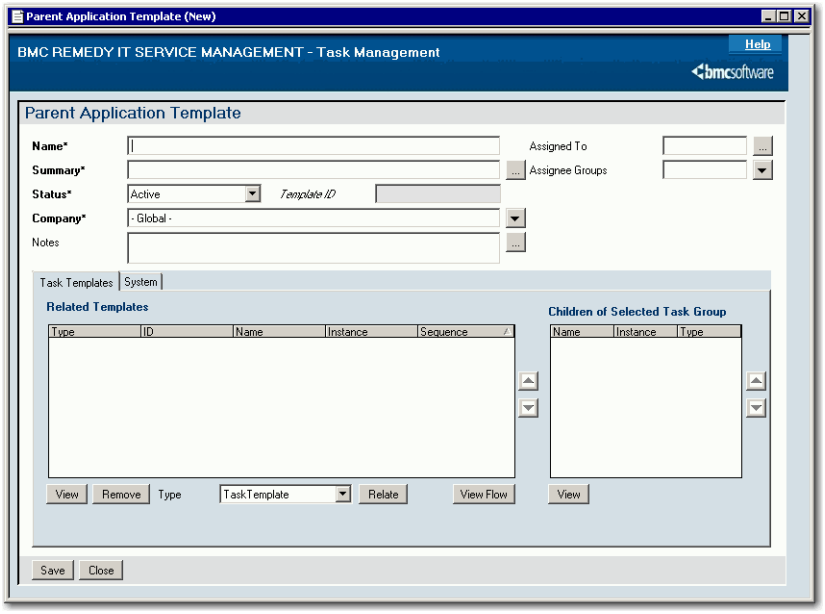
1 Open the IT Home page using Task Administrator or Task Application Config permissions.

For more information, see "Logging in to the Task Management System" on page 26.

2 From the IT Home Page, click Parent Application Template.

The Parent Application Template form appears.

Figure 6-1: Parent Application Template form



3 Fill in the required fields (fields in bold with an asterisk):

Field Name	Description
Name	Enter the name of the task group.
Summary	Enter a brief description of the purpose of this task group template.
Company	Select a company. This task group is available only to the company you select.
Status	Select Active or Inactive. ■ Selecting Active enables the template for use at runtime. ■ Selecting Inactive deactivates the template. Inactive objects cannot be used at runtime. Usually, you set an object to Inactive when it is no longer used at runtime, but might be needed again in the future. When it is needed again, you can set it to Active. ■ Selecting Potential puts the template into inactive status. You can design the template without activating it.

4 Fill in the optional fields:

Field Name	Description
Notes	Enter a description of the parent template's function or any other helpful text for future administrators and designers.
Assigned To	Select the assignee to whom this parent template is assigned to at runtime.
Assignee Groups	Select the group to which this parent template is assigned at runtime.

5 Save the object.

Defining and interacting with parent application objects

You use the Parent Application Object form to select task templates.

You can also create ad hoc tasks on the Parent Application Objects form.

▶ To define and interact with Parent Application Objects

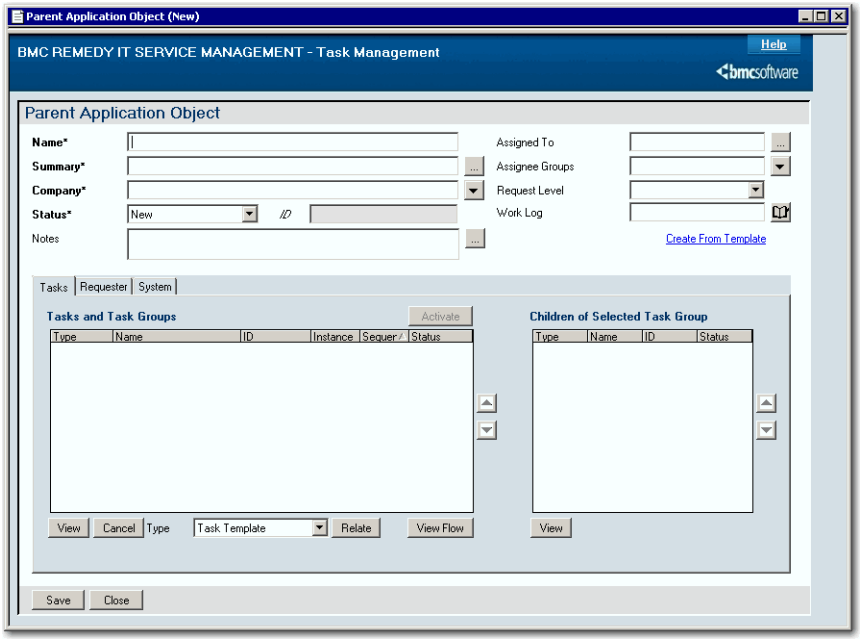
1 Open the IT Home page with the appropriate permissions.

For more information, see "Logging in to the Task Management System" on page 26.

2 From the IT Home Page, click Parent Application Object.

The Parent Application Object form appears.

Figure 6-2: Parent Application Object form



3 Enter a name, summary, and company.

4 Set the status of the parent object to New, Assigned, Work in Progress, Pending, or Closed.

5 Save the object.

6 Open the Parent Application Object form in Search Mode and query for the object you created.

Relating a task template to the parent application object

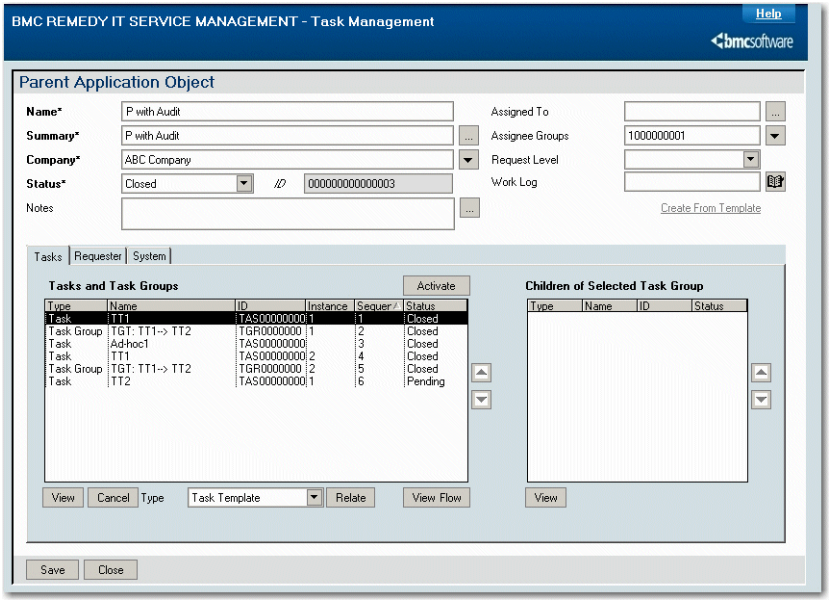
If needed, you can relate a task template to a parent application object.

▶ To relate a task template to the parent application object

1 Open the Parent Application Object form.

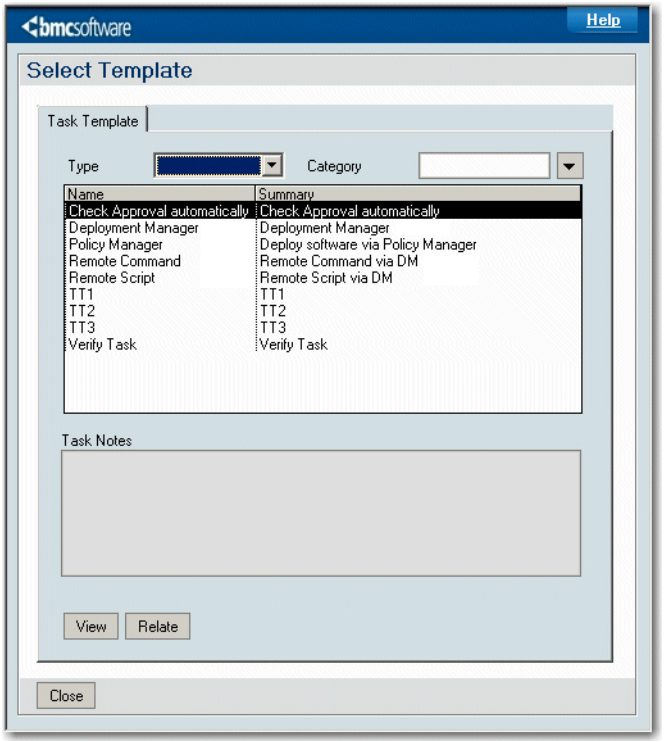
2 Create or open a parent application object.

Figure 6-3: Relating a task template in a parent object



3 On the Tasks tab, select Task Template from the Type list and then click Relate to open the Template Selection dialog box.

Figure 6-4: Selecting a task template



The available Active task templates are displayed.

4 Select the task in the table and then click Relate.

The dialog box closes and a new task appears in the Tasks and Task Groups table of the parent application object. At runtime, you can use these tasks from your parent application object.

Relating a task group to a parent object

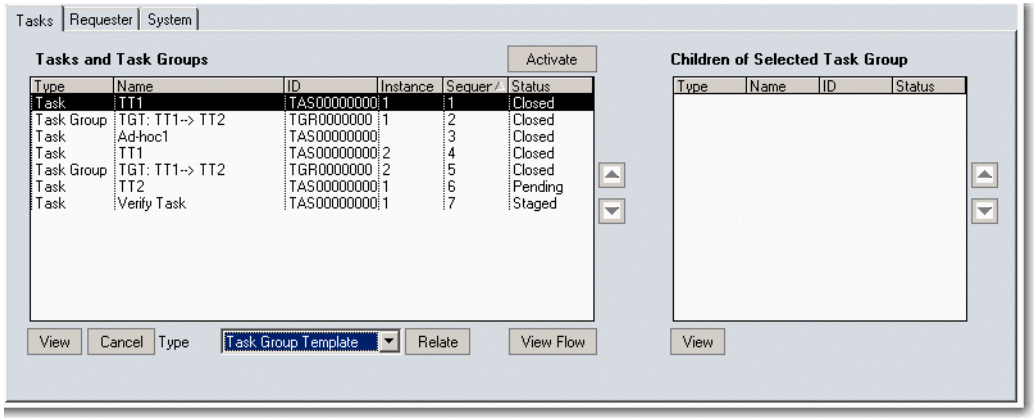
If needed, you can relate task groups to a parent object.

▶ To relate a task group to a parent object

1 Open the Parent Application Object form.

2 Open a parent application object.

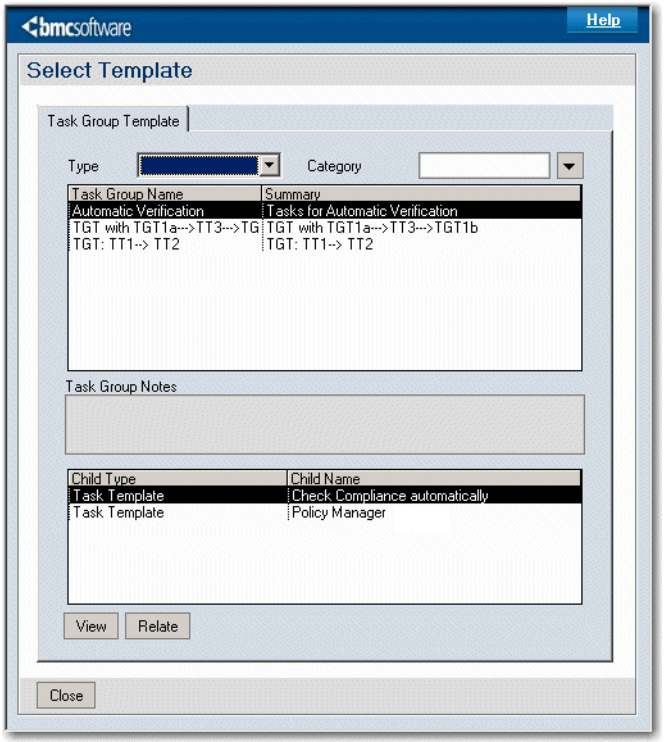
Figure 6-5: Relating a task group template in a parent object



3 Select Task Group Template from the Type list and then click Relate to open the Template Selection dialog box.

The available Active task group templates are displayed. The tasks that comprise the selected task group are displayed in the table at the bottom of the dialog box.

Figure 6-6: Selecting task group template



The selected task group template creates runtime tasks or task groups, and they appear in the table of the parent application object.

4 Select the task group in the table and then click Relate.

The dialog box closes and a new task group appears in the Tasks and Task Groups table of the parent application object. At runtime, you can use these task groups from your parent application object.

Relating an ad hoc task at runtime

If needed, you can relate an "ad hoc" task at runtime to the parent application object window.

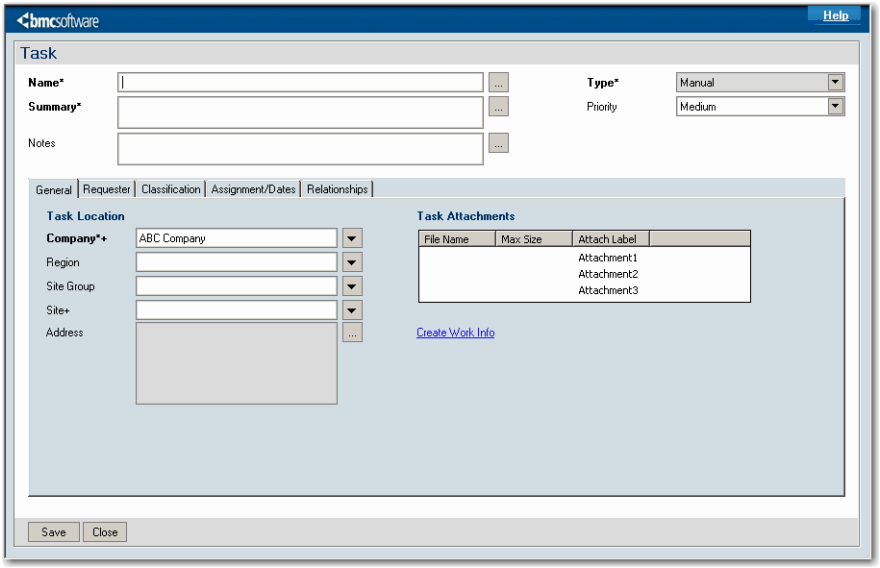
▶ To relate an ad hoc task

1 Open the Parent Application Object form.

2 Open a parent application object.

3 Select Ad hoc from the Type list and then click Relate to open the Task dialog box.

Figure 6-7: Task dialog box



Note: Only the manual type is available for ad hoc tasks.

4 Enter a name and summary.

5 Choose a priority.

6 Enter additional details as needed, for example, in the Requester tab.

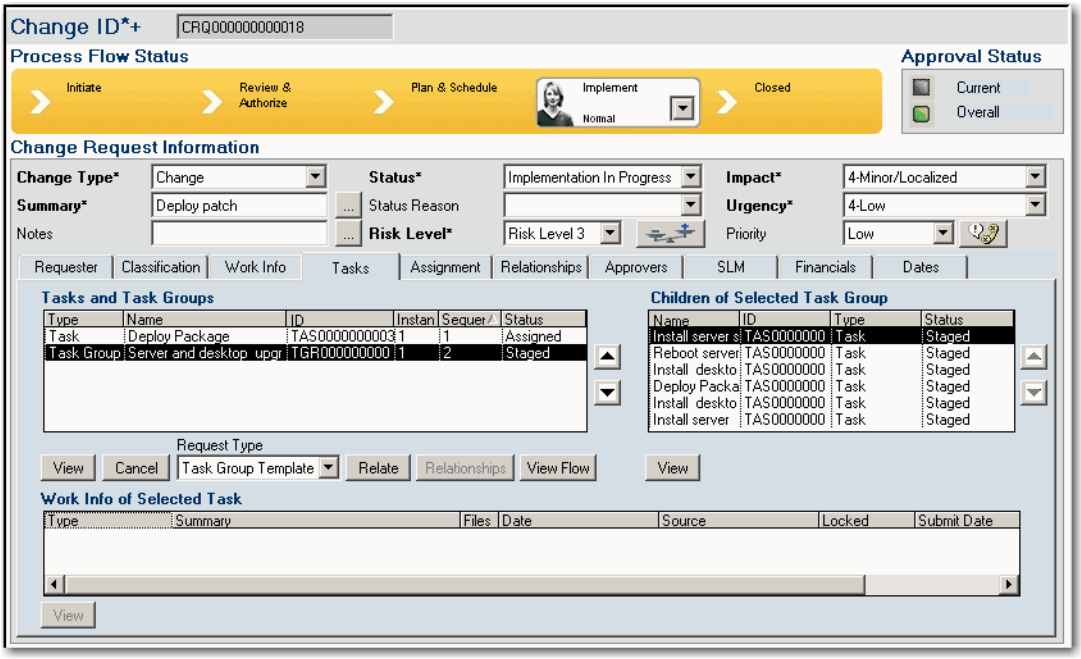
7 Save your changes.

The ad hoc task appears in the Tasks and Task Groups table in the parent application object.

Viewing tasks at runtime

Launching tasks at runtime from a parent object is shown next. In this example, the "parent" is the 7.0 Change Management application. This section focuses exclusively on tasks used in the BMC Configuration Management integration.

Figure 6-8: Using tasks inside a parent object



Important: To make the following procedure work as expected, you must properly configure the integration between Change Management and BMC Configuration Management. For more information, see "Seamless integration with BMC Configuration Management" on page 125.

To view and launch tasks at runtime

1 Open the parent application object, for example, Change Management and then create a record.

Although you can add tasks or task groups to a change during any state, for example, Initiate, they can only be worked on during the Implement state.

2 Use the process flow accelerators to step through the states of your change request until you reach the Implement state.

3 Click the Tasks tab.

4 From the Request Type list, select Task Group Template and then click Relate.

The Select Template dialog box appears.

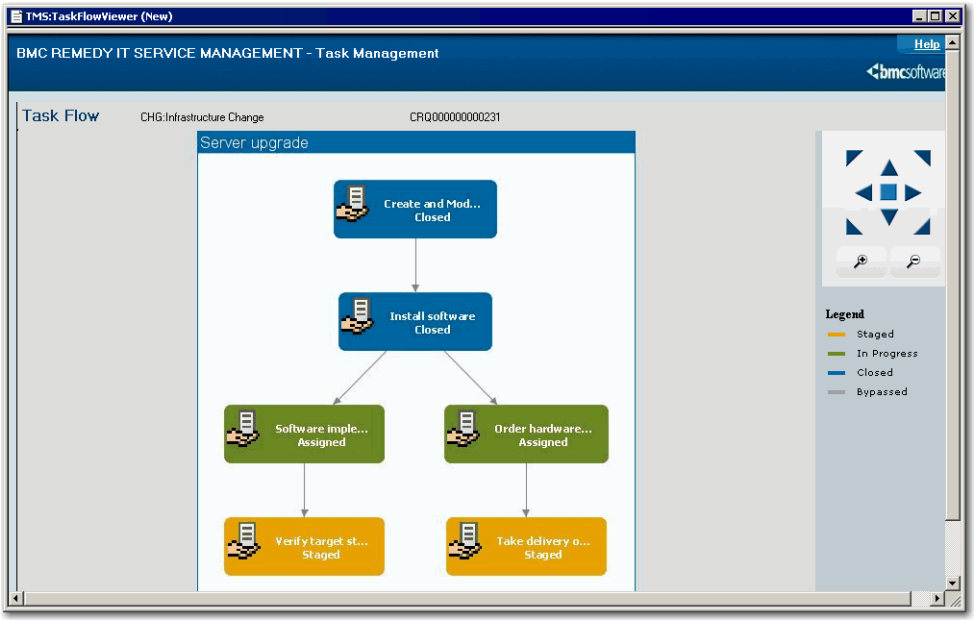
5 Select a task group, for example, Create and Modify Policy with Closed Loop Verification, and then click Relate.

Best Practice

This best practice task group template is available out of the box for adding CIs and SLIs and verifying task completion. The task group is then added to the change request.

6 (Optional) Click View Flow to see a read-only view of the tasks in the task group.

Figure 6-9: Task Flow Viewer window



The Task Flow Viewer uses color codes to illustrate the different stages of the tasks. For example, a blue stage indicates that its status is Closed, but a yellow stage shows its status is Staged. The Viewer also shows you the flow between tasks.

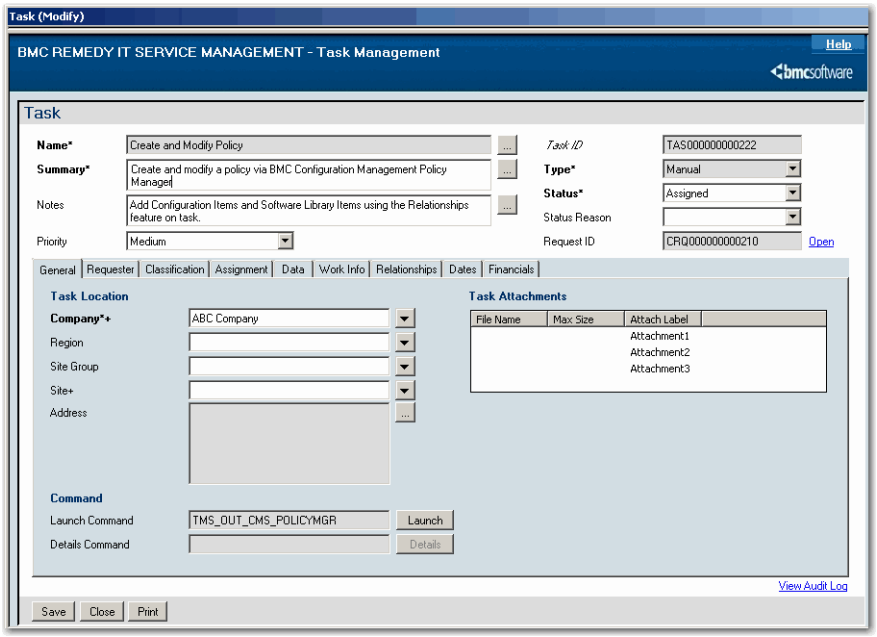
You can perform the following functions in the Task Flow Viewer.

- Zoom in to focus the view.
- Zoom out to expand the view
- Click the pan buttons to move the flow around.

7 In the Children of Selected Task Group table, select the task to work on and then click View.

The task template generates a Task form containing the task.

Figure 6-10: Task form

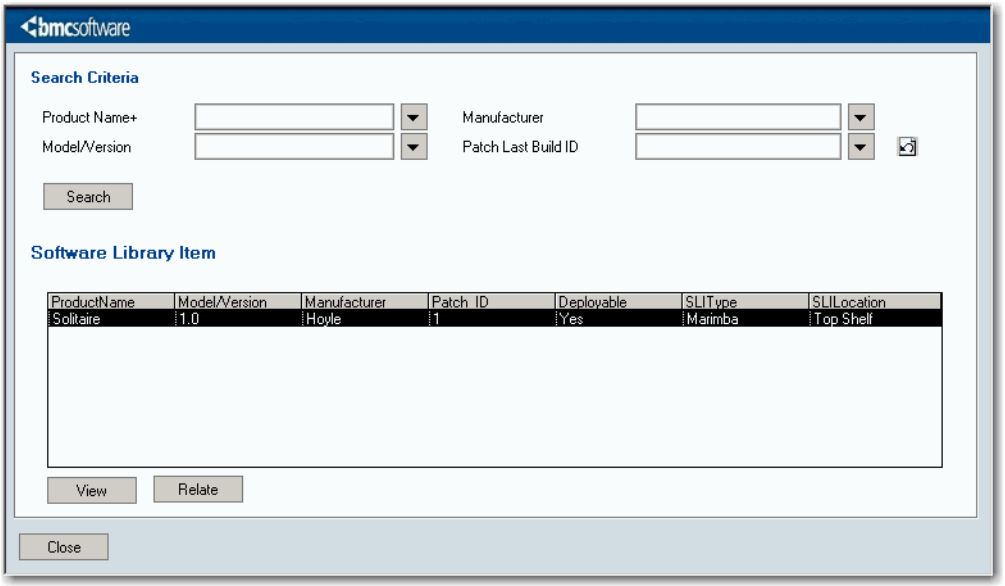


8 Click the Relationships tab.

9 Perform a search for a Software Library Item (SLI).

The Software Library Item Search dialog box appears. The SLI is the software that is being deployed. The SLI contains the "location" of the software. The SLI location can be either an actual physical repository (for example, Fred's top drawer) or electronic (a folder on your network).

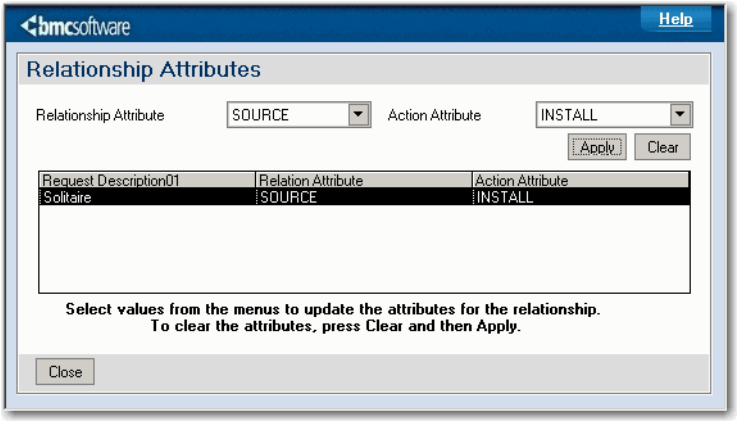
Figure 6-11: Software Library Item Search dialog box



10 In the search results, select the appropriate SLI and then click Relate.

The Relationship Attributes dialog box appears.

Figure 6-12: Relationship Attributes—SOURCE



You can only set the following values with SLIs and CIs; otherwise, the relationships created do not work as expected.

Relationship item	Relationship attribute	Action Attribute
Configuration Item	TARGET	Not applicable
LDAP	TARGET	Not applicable
Software Library Item	SOURCE	INSTALL
Software Library Item	SOURCE	UNINSTALL

11 Define the relationship attribute, for example, SOURCE.

12 Define the action attribute, for example, INSTALL.

13 Click Apply.

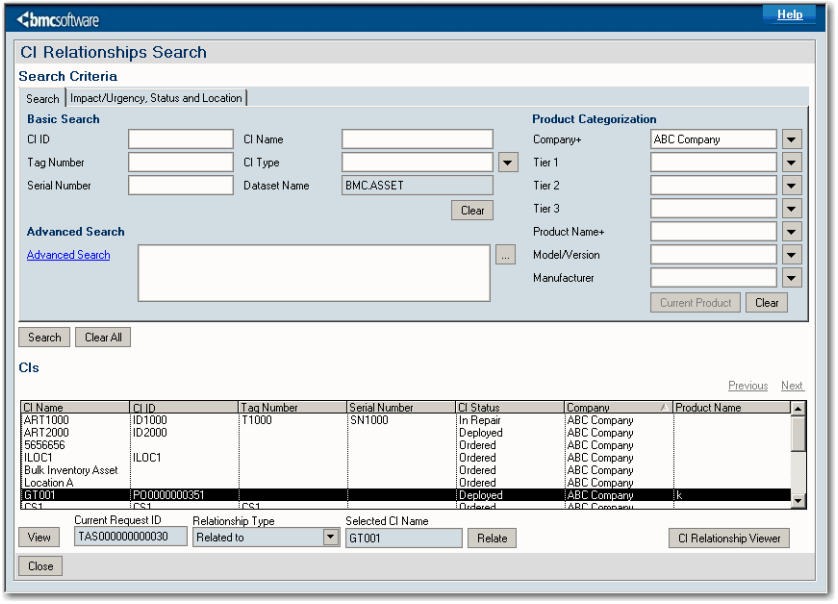
14 Close the dialog box.

The SLI is added to the change request.

15 Perform a search for a Configuration item.

The CI Relationships Search dialog box appears. CIs are the actual machines where the software is deployed.

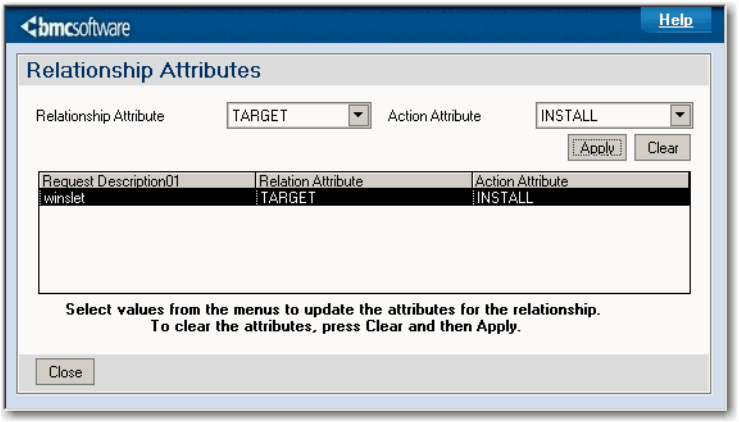
Figure 6-13: CI Relationships Search dialog box



16 In the search results, select the appropriate CI and then click Relate.

The Relationship Attributes dialog box appears.

Figure 6-14: Relationship Attributes—TARGET



17 Define the relationship attribute, for example, TARGET.

18 Define the action attribute, for example, INSTALL.

19 Click Apply.

20 Close the dialog box.

The CI is added to the Relationships table in the Task form.

Note: When the SLI and the CI are related to the task, the relationships are carried over to the change. If a task user wants to select SLIs or CIs related to the change to relate them to the change, use the Get Related Relationships quick action on the Relationships tab on the Task form. A similar quick action is found on the Task tab on the Change form to allow the change to relate SLIs or CIs to a task related to the change entry.

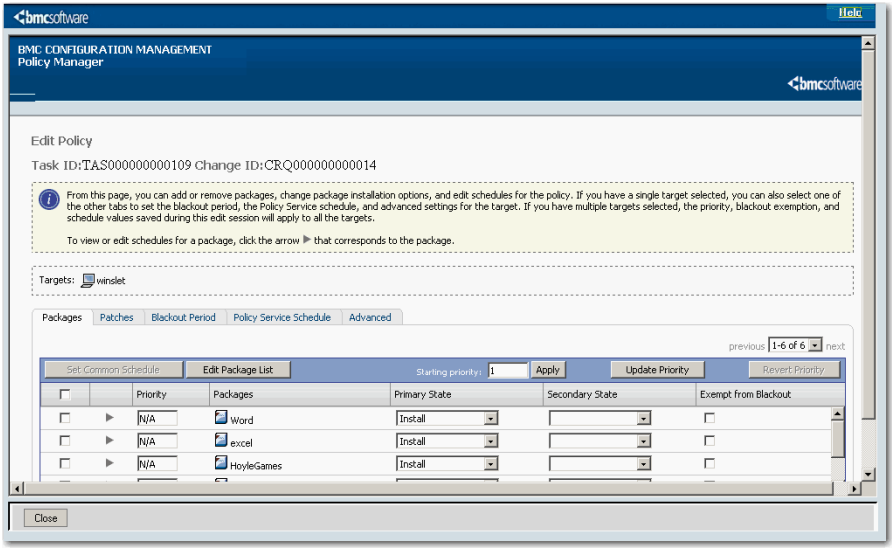
---

21 In the Task form, click the General tab.

22 Click Launch.

The BMC Policy Manager tool appears.

Figure 6-15: BMC Policy Manager



Important: If you have deployed the integrated CCM solution with seamless authentication, the task user can launch the task from Change Management or Configuration Management without having to retype your user ID and password.

23 After you have performed the policy changes, click Save.

24 Close the Policy Manager window to return to the Task form.

25 (Optional) Review the work information about the task.

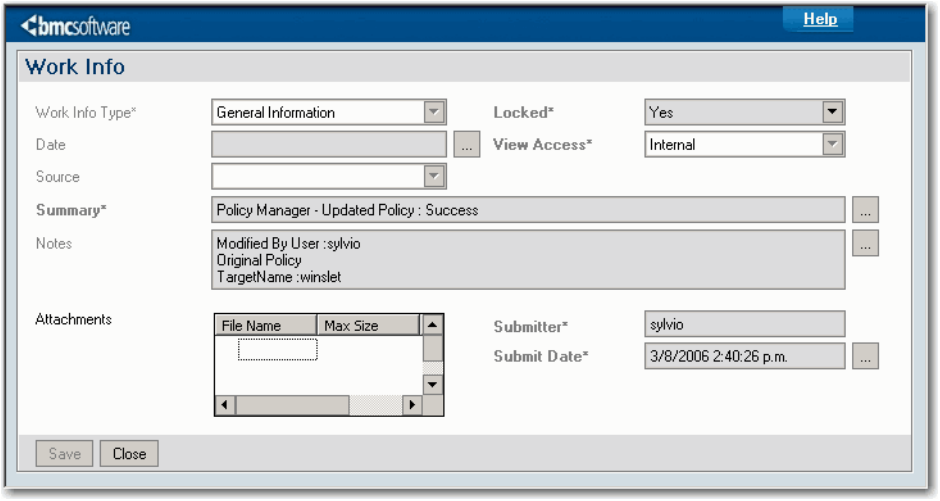
The work information about the task is updated with the changes performed by the task.

a Click the Work Info tab.

b In the Work Info History area, select the Policy Manager entry and then click View.

The Work Info dialog box appears.

Figure 6-16: Work Info dialog box



c Close the dialog box when you are finished viewing the information.

d Click Report to view an ASCII-format report of the task changes.

The report lists the software installed, if the policy was successful, and so on.

26 In the Status field, set the task status to Closed.

The status reason automatically is set to Success. You can select a different status reason, for example, Failed or Canceled.

27 After you make all your modifications and enter all required information, save and close the task.

The Task form closes and you are returned to the change request.

28 Refresh the children of the task group table.

The status of the first task is marked as Closed and the status of the second task is now Waiting.

29 Open the second task:

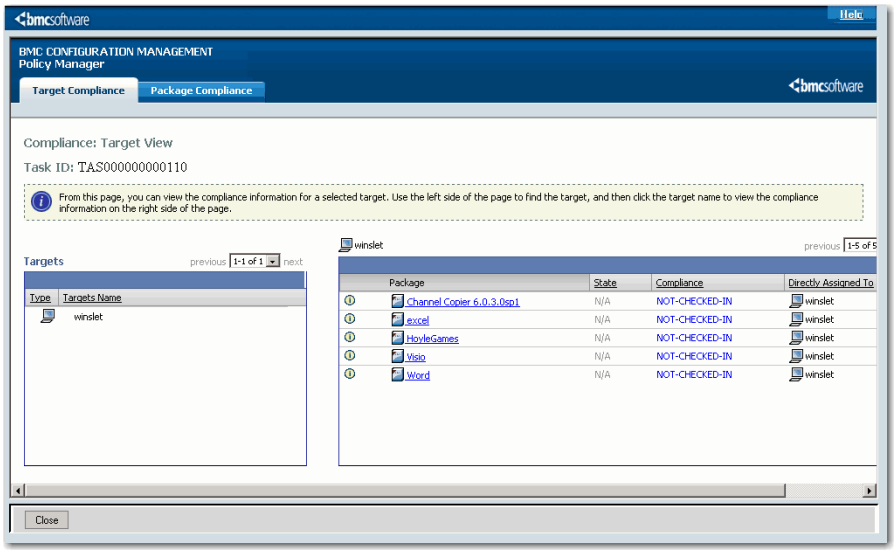
a Select the Check Compliance task and then click View.

The Task form appears.

b Click Details to view the target and package compliance.

The Viewer window for Policy Manager appears.

Figure 6-17: Policy Manager Viewer



c Verify the compliance in Policy Manager.

d Close the Viewer window when you are finished to return to the Task form.

30 In the Status field, set the task status to Closed.

You can view the work information for the task as needed. The task record is updated with the changes performed by the task.

31 After you make all your modifications, save and close the task.

The Task form closes and you are returned to the change request.

32 Refresh the children of the task group *and* the task and task groups tables.

All tasks and the task group are marked as Closed.

33 Save the record.

Appendix

A Seamless integration with BMC Configuration Management

Seamless authentication enables users to launch Configuration Management applications from Change Management tools without being challenged to re-enter a user name and password. This section describes configuring seamless authentication integration with Change Management, TMS, and BMC Configuration Management.

The following topics are provided:

Creating user accounts

For the purposes of integration, you must create two types of user in the People form to use the Change Management application. The first user is a CMS AR System User. This is a single, special user created for the integration. The other type of users are Change Management Users. In both cases, there *must* be the same login and password combination in both the Configuration Management and Change Management systems.

Creating the CMS AR System User

Although these steps cover creating the CMS AR System User, the same basic steps are followed for creating Change Management Users. You must make sure the user has the proper permissions to access both the Change Management and BMC Configuration Management applications.

For more information about creating application users, see the *BMC Remedy IT Service Management 7.0 Configuration Guide*. For more information about creating BMC Configuration Management users, see "CMS integration tasks" on page 133.

▶ To create a CMS AR System User for integration

1. Open the IT Home page using Task Administrator or Task Application Config permissions.

   For more information, see "Logging in to the Task Management System" on page 26.

2. Click the Application Administration Console link.
3. Click the Custom Configuration tab.
4. From the Application Settings list, choose Foundation > People > People, and then click Open.

   The People form appears.

5. Enter the People Information that is useful to you in finding and editing this information in the future.

   This information includes: name, client type, profile status, Location Information and, optionally, an email address.

6. On the Login/Access Details tab, enter the Login ID of CMSUSER.
7. Create a Password.

8 Click Update Permission Groups.

The Permission Groups Update dialog box appears.

9 In the Permission Group list, select each appropriate permission group to add, then click Add/Modify for each one.

The following table lists all the permissions necessary to configure the users properly, including the BMC Configuration Management permissions that you use later.

User Type	BMC Remedy Change Management Permissions	BMC Configuration Management Permissions
Change Management Users	■ Change > Infrastructure Change User ■ Asset > Asset User **Note:** When you select the Infrastructure Change User permission, you automatically inherit the Asset Viewer permission as well.	Admin For more information, see "Verifying roles for user authentication" on page 134.
CMS AR System User	■ Change > Infrastructure Change User ■ AR System > Administrator **Note:** When you select the Infrastructure Change User permission, you automatically inherit the Asset Viewer permission as well.	Primary Admin For more information, see "Verifying roles for user authentication" on page 134.

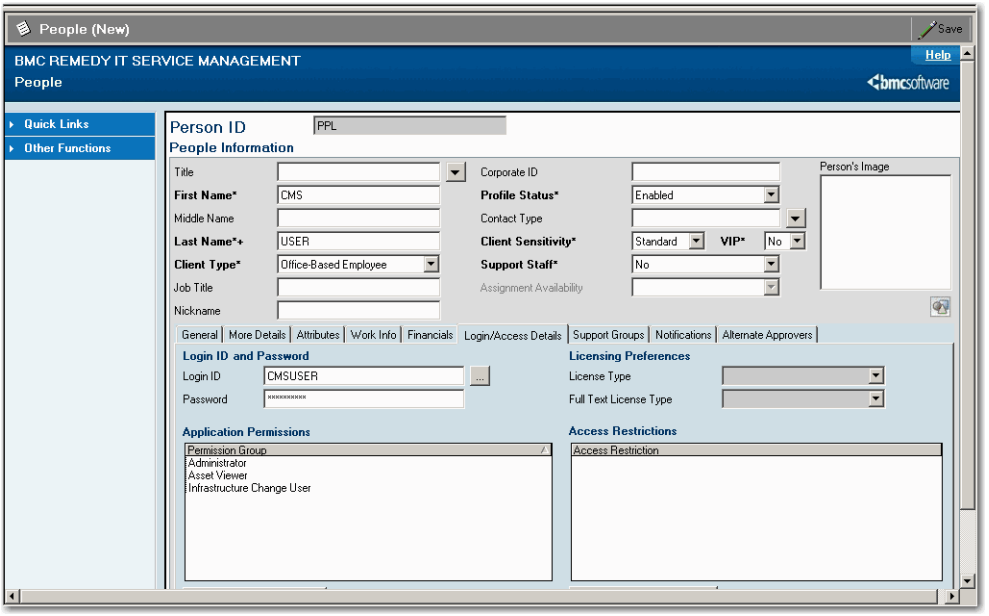
10 When you have given the user the necessary permissions, close the Permission Groups Update dialog box.

11 In the Access Restrictions area of the People form, make sure that Unrestricted Access is selected if it is not already.

12 Save the record.

A completed People form appears as follows.

Figure A-1: People form



To create Change Management Users, follow the preceding steps and grant the appropriate permission.

Important: This Login ID and Password *must* be exactly the same as the BMC Configuration Management Login ID and Password.

Editing the Application Registry for the CMS AR System User

This registry is provided for the Command Automation Interface (CAI) integration.

▶ To edit the application registry for integration

1. Open the IT Home page using Task Administrator or Task Application Config permissions.

   For more information, see “Logging in to the Task Management System” on page 26.

2. Click the Application Administration Console link.
3. Click the Custom Configuration tab.

4 From the Application Settings list, choose Foundation > Advanced Options > Command Automation Interface - Application Registry, and then click Open.

The Application Registry form appears.

5 Click the New Search toolbar icon and then click Search.

The list of application registry records is displayed.

6 Select the BMC Configuration Management registry.

7 On the Connection tab, edit the Password to exactly the same as the CMS AR System User created previously.

8 Click Save.

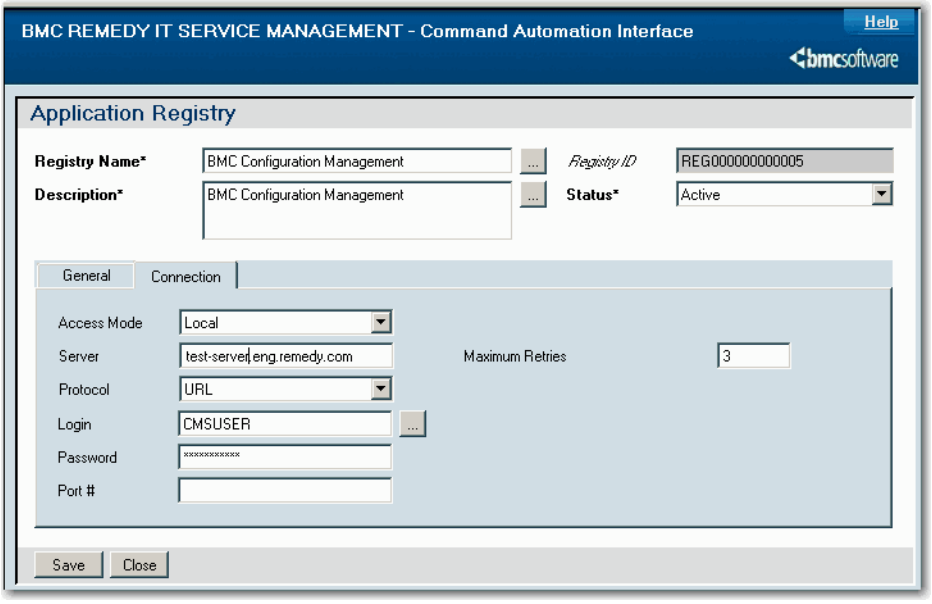
Best Practice

Use the default CMSUSER, but change the password for this user. The CMS AR System User name can be changed, but must be changed in the people form, in this registry and in the CM system.

9 Save your changes.

A completed Application Registry form appears as follows.

Figure A-2: Application Registry entry



Activating the integration

Next, provide the CMS Host and DM Host names and set the status to Active. This step enables links between the BMC Configuration Management system, Change Management, and TMS.

To activate the integration

1 Open the IT Home page using Task Administrator or Task Application Config permissions.

For more information, see "Logging in to the Task Management System" on page 26.

2 Click the Application Administration Console link.

3 Click the Custom Configuration tab.

4 From the Application Settings list, choose BMC Configuration Management > Integration > Application Configuration, and then click Open.

The CMS Configuration Management form appears.

On the CMS Configuration Management form, you specify the Configuration Management CMS and DM host and port information and save the record. This updates the URLs for accessing Configuration Management with the correct host and port information.

Note: URLs are defined using the Command Automation Interface options on the Application Administration Console. For more information, see "Registering applications with Command Automation Interface (CAI)" on page 36 and the *BMC Remedy IT Service Management 7.0 Configuration Guide*.

---

5 Click the New Search toolbar icon and then click Search.

The list of application configuration records is displayed.

6 Select the Remedy Change Management application.

7 In the CMS Host field, type the name or IP address of the machine that hosts your BMC CM Common Management Services (CMS) console.

You should enter the FQDN (Fully Qualified Domain Name) of the server, for example, `hostname.sales.bmc.com`, not just its host name.

8 In the CMS Port field, type the port number for the CMS host server (for example, `8888`).

9 In the DM Host field, type the name or IP address of the machine that hosts BMC CM Deployment Manager.

Best Practice

This could be the same server that hosts CMS, or a different server. You should enter the FQDN (Fully Qualified Domain Name) of the server, for example, `hostname.sale.bmc.com`, not just its host name.

10 In the DM Port field, type the port number for the DM host server (for example, `8000`).

11 In the Status field, change the status from Proposed to Active.

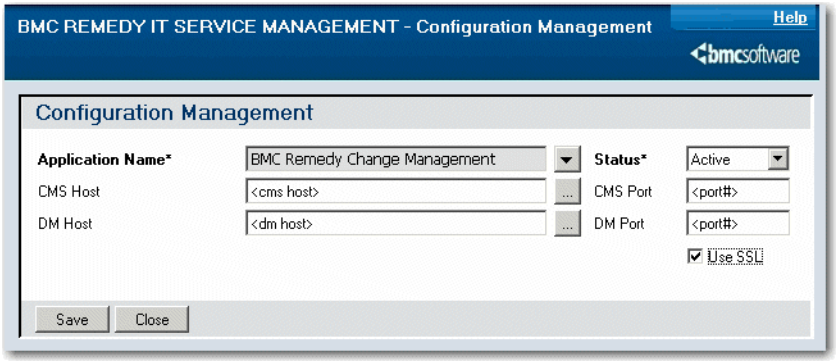
12 Optionally, select the Use SSL checkbox if secure socket layer is in use.

13 Click Save to activate the integration.

This updates the CAI entries with the host and port values entered and enables the integration.

Important: Updates of the CMS host and port plus the DM host and port from this configuration form to the CAI records (where the commands are stored) are one direction only. If you are using this configuration form to make updates, you must continue to do so to keep it synchronized. If you make any updates for the host names and port numbers directly to the CAI records, then the configuration record does not resolve the differences.

Figure A-3: Configuration Management entry form



Post-installation tasks

Before using the integration, two filters containing embedded Web Services XML files require a post-installation update of the CMS host name and port number.

Updating filters

▶ To update filters

1. In the installation location, locate the following two XML files in the sub-directories under the `\Remedy Change Management\ar` directory.
   - `CAICMS_SMAWebService.xml`
   - `CMSTMS_PolicyManagerTaskService.xml`
2. Copy both files to another location.
3. Depending on your OS, do one of the following steps:
   - In Windows, right-click on each file, select Properties, clear Read-only, and then click Apply.
   - In UNIX, change the file property to writable.
4. Open the file to edit.
5. Search for the string of `http://cms host:port` and replace it with relevant host name and port number configured for the CMS server.

   If SSL is being used, replace `http` with `https`.
6. Save the updates.
7. Using BMC Remedy Administrator, import each XML file:
   - `INT:CAICMS:SMAWebService`
   - `INT:CMSTMS:TAS:Automatic_PolicyManagerTaskService_002`
8. Log in as an AR Administrator user to BMC Remedy Administrator.
9. In the Servers list, select the server name.
10. Choose Tools > Import Definitions > From Definition File > file name preceding.
11. Highlight the filter in the Available Lists box and then click Add.
12. Check Replace Options on Destination Server.

13 Click Import.

14 Repeat for each XML file.

CMS integration tasks

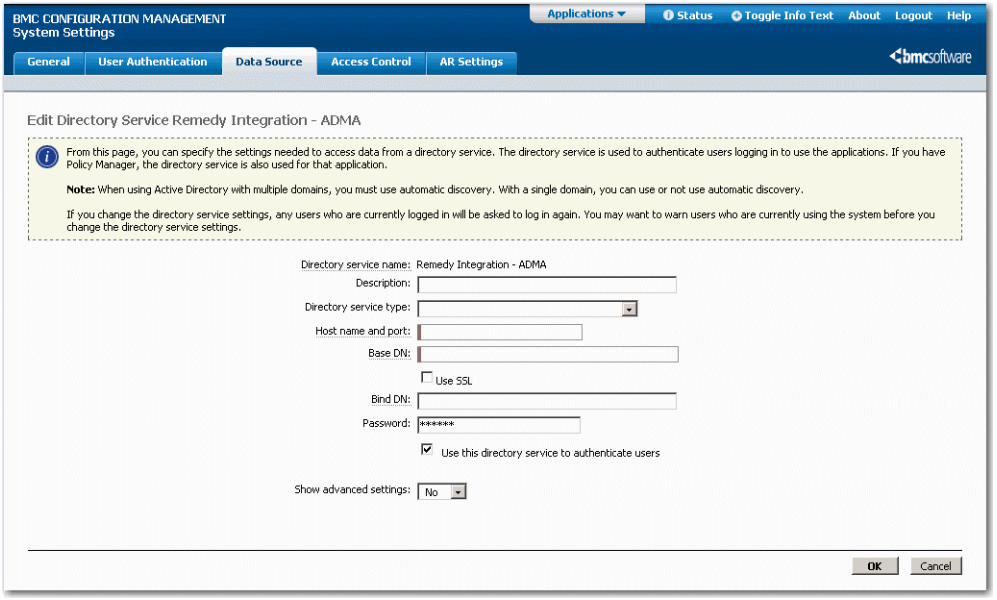
The following tasks must be completed on the CMS application for the integration to be complete.

Editing the directory service

You must edit the Directory Service for Remedy Integration to include the CMS AR System User with exactly the same login and password that you created in "Creating the CMS AR System User" on page 126.

See the *BMC Configuration Management Infrastructure 7.0 Administrator's Guide* for complete instructions on editing directory services.

Figure A-4: Directory Service Remedy Integration



Verifying roles for user authentication

You must make sure that the user has the correct roles to perform configuration management tasks. Verify that the correct roles are available in BMC Configuration Management. For detailed information about user roles, see the *BMC Configuration Management Infrastructure 7.0 Administrator's Guide*.

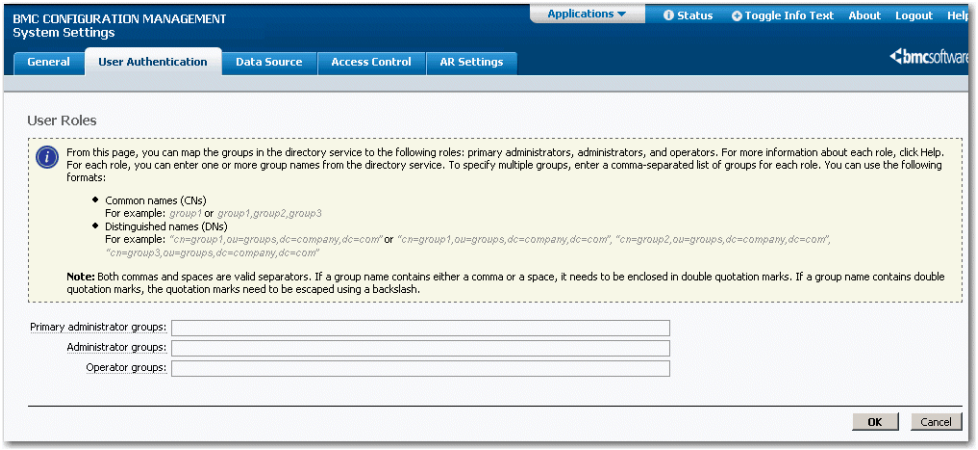
▶ To verifying roles for user authentication

1. Log in to the BMC Configuration Management console.
2. Choose Applications > Console > System Settings.
3. Click the User Authentication tab.

   The User Authentication Settings page appears.
4. Click the User Roles link.

   The User Roles page appears.

Figure A-5: User Authentication tab - User Roles page



5. Make sure that you have properly set up the group capabilities of users when they log in to use the BMC CM browser-based applications.

When users log in to the system, their roles are assigned based on the user name and password they provide.

- The CMS AR System User must be assigned the Primary Administrator role.

  Primary administrators have access to all product features available in the applications, including the system settings and configuration pages for applications. Among the system settings that primary administrators have access to is managing user access to applications.

- The Change Management Users must be assigned at least the Administrator role.

  Administrators can log in to the applications and have access to most product features available, except those reserved for primary administrators.

6 Define any missing groups.

7 Click OK to save your changes.

Configuring the AR System settings

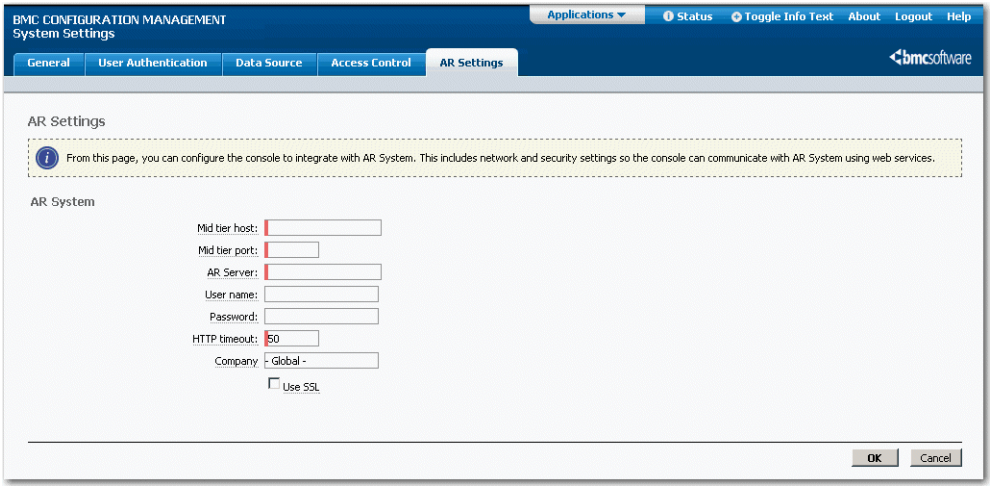
The AR System mid tier facilitates communication between a browser (in this case, BMC Configuration Management) and the AR System server. The mid tier lets a browser become a fully functional AR System client.

▶ To communicate with the AR System servers

1 In the BMC Configuration Management console, choose Applications > Console > System Settings.

2 Click the AR Settings tab and then click the AR Settings link.

Figure A-6: AR Settings tab - AR Settings link



3 In the Mid tier host field, enter the host name of the machine on which the mid tier web server is running.

   Make sure the mid tier is reachable.

4 In the Mid tier port field, enter the port number of the machine on which the mid tier web server is running.

   The default is 80.

5 In the AR Server field, enter the name of the AR System server being used by the mid tier.

6 In the User name field, enter the user name for accessing AR System.

   The user account must have the correct permissions to access the AR System Change Management application and the Definitive Software Library (DSL).

   Important: This should be the user CMSUSER and password created on "Creating the CMS AR System User" on page 126.

7 In the Password field, enter the password for accessing AR System.

8 In the HTTP timeout field, enter the timeout for the web services HTTP messages.

   The default is 50 seconds.

9 In the Company field, enter "- Global -" if it is not entered already.

10 To use SSL on the server for communication with AR System, select the Use SSL check box.

11 Click OK.

Configuring the AR System database

Every AR System server is configured to a database, which stores the definitions and data. This procedure lets you specify a database location and name so that BMC Configuration Management Report Center can leverage the AR System DSL to generate inventory reports with normalized names, reports based on CMDB queries, and so on.

There are several possible database platform combinations when establishing a communication link between the BMC Configuration Management System and Action Request System. The BMC Configuration Management System is supported on two database platforms: Oracle and SQL Server. The AR Request System is supported on the following database platforms: Oracle, SQL Server, DB2, Sybase, and Informix.

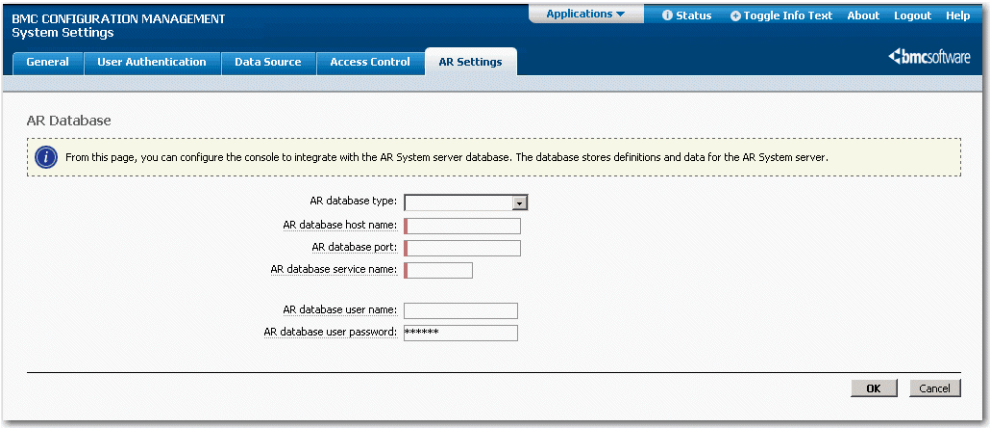
Note: To establish a communication link between BMC Configuration Management and the AR System database with the proper user name and password that allows connectivity to the DSL, you must run the `AR Database Security Script`. The script creates a database user (the default is `CCM_USER`) who has read-only access to selected data in the AR System database. For more information, see the *Definitive Software Library 7.0 Administrator's Guide*.

▶ To communicate with the AR System database

1 Choose Applications > Console > System Settings.

2 Click the AR Settings tab and then click the AR Database link.

Figure A-7: AR Settings tab - AR Database link



3 In the AR database type field, select a database type from the list.

4 In the AR database host name field, enter the name of the machine on which the AR System database is running.

5 In the AR database port field, enter the port number used to remotely connect to the database.

Port numbers are usually 1521 for Oracle and 1433 for SQL Server.

6 In the AR database service name field, enter the AR System database name. The default is ARSystem.

7 In the AR database user name field, enter the user name created by the AR database security script.

8 In the AR database user password field, enter the password created by the AR database security script.

9 Click OK.

Java runtime environment considerations

AR System web services require that Java Runtime Environment (JRE) on the system is running BMC Remedy Administrator. You can check the validity of the certificate by using your browser. Browsers indicate errors and warnings in detail while communicating over https.

The JRE ships with a default certificate database in the `tuner\lib\jre\lib\security\cacerts` directory. By default, the database contains a limited set of trusted root certificates.

For more information, see:

http://java.sun.com/j2se/1.4.2/docs/tooldocs/windows/keytool.html#cacerts

You can use the Java command line tool, keytool, to import new trusted root certificates. For more information, see:

http://java.sun.com/j2se/1.4.2/docs/tooldocs/windows/keytool.html#importCmd

You can remove all of the trusted root certificates with the following command from the jre\bin directory:

```
keytool -list -v -keystore ..\lib\security\cacerts -storetype jks -
storepass changeit
```

Note: The VM's default store password is changeit.

To verify which certificates are issued with your root certificate, make an SSL connection to CMS using your browser. From Internet Explorer, double-click the lock-icon at the bottom right. The chain of certificates from your SSL certificate to the top-level root certificate appears. Make sure each root is in the cacerts file.

To add a root certificate to the cacerts file, use the following command:

```
keytool -import -v -file c:\temp\root.b64 -keystore
..\lib\security\cacerts -storetype jks -storepass changeit
```

This assumes you have previously exported the root certificate to c:\temp\root.b64. BMC Configuration Management has a channel, Certificate Manager, which allows you to do this.

Make sure to remove the cacerts again to verify that the certificate was added successfully.

Note: If you do not specify the keystore location, the keytool creates a new cacerts in the $HOME directory.

Appendix

B Configuring LDAP with TMS on the AR System server

This section describes how to configure LDAP with TMS on the AR System server.

LDAP configuration with TMS on the AR System server is done in two steps. First, the connection to the designated LDAP server is configured through ARDBC LDAP Configuration form with the BMC Remedy User client or a browser. The next step is to edit the TMS:LDAPUser and TMS:LDAPGroup forms in the BMC Remedy Administrator tool. This procedure also covers integration with the SUN-ONE/IPLANET directory server.

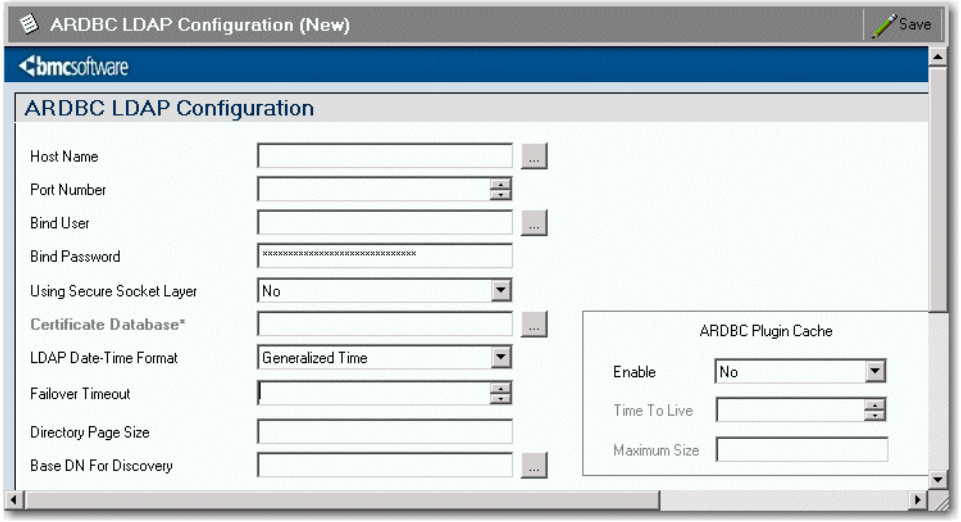
For more information about LDAP plug-ins, see the *BMC Remedy Action Request System 7.0 Integrating with Plug-ins and Third-Party Products* guide.

To configure Active Directory Application Mode (AD/ADAM) Directory Servers

1. Log in as an AR System Administrator user in the BMC Remedy User tool.

   You can also access the form from a browser.
2. Open the object-list by typing CTRL-o.
3. Search for and select the ARDBC LDAP form.
4. Enter the LDAP server to use to relate the LDAP users and groups.

Figure B-1: ARDBC LDAP Configuration Settings



5. Click Save.
6. Log in to BMC Remedy Administrator as an AR System Administrator user.

7 In the Servers list on the left side, select your server name and then the Forms option under that.

8 Choose Edit > Find, or press F3, and type `TMS:LDAPUser`, click Find.

9 Select the form.

10 Choose Form > Form Properties.

11 Click the Vendor Information tab.

12 Replace the Table Name with the LDAP host and the Base DN for your LDAP configuration.

For example, replace the Table Name with the following value:

```
ldap://172.23.237.64:389/
cn=users,dc=example,dc=com??sub?(objectclass=user)
```

For SUN-ONE/IPLANET directory server, use the following values:

```
ldap: //172.23.237.64:389/
ou=people,dc=example,dc=com??sub?(objectclass=inetorgperson)
```

13 Because the `distinguishedName` property is not available for SUN-ONE/IPLANET directory server, to get the Full DN, configure the `entrydn` property.

a In the TMS:LDAPUser form, double-click the distinguishedName field.

b In the Field Properties dialog box, click the Database tab.

c In the Name field, type `entrydn`.

d Save your changes.

14 Click OK to save your changes.

15 Close the TMS:LDAPUser form.

16 Open the TMS:LDAPGroup form.

17 Choose Form > Form Properties.

18 Click the Vendor Information tab.

19 Replace the Table Name with the LDAP host and the Base DN for your LDAP configuration.

For example, replace the Table Name with the following value:

```
ldap://172.23.237.64:389/
cn=users,dc=example,dc=com??sub?(objectclass=group)
```

For SUN-ONE/IPLANET directory server, use the following values:

```
ldap: //172.23.237.64:389/
ou=people,dc=example,dc=com??sub?(|(objectclass=groupofnames)(objectc
lass=groupofuniquenames))
```

20 Because the `distinguishedName` property is not available for SUN-ONE/IPLANET directory server, to get the Full DN, configure the `entrydn` property.

a In the TMS:LDAPUser form, double-click the distinguishedName field.

b In the Field Properties dialog box, click the Database tab.

c In the Name field, type `entrydn`.

d Save your changes.

21 Click OK to save your changes.

22 Close the TMS:LDAPGroup form.

Glossary

This glossary contains terms for all of the ITSM applications.

For a list of AR System terms, see the glossary in *BMC Remedy Action Request System 7.0 Concepts* guide.

For a list of CMDB terms, see the glossary in *BMC Atrium CMDB 2.0 Concepts and Best Practices Guide*.

accelerated depreciation
Any method of depreciation that allows greater deductions in the earlier years of a CI's life cycle. See also *depreciation* and *configuration item (CI)*.

access permission
See *permission group*.

action
A mechanism, such as an alert or a Set Fields action, for making sure that SLM commitments are met. You can define one or more actions that are associated with a milestone.

administrator
See *application administrator*.

Administration console
See *Application Administration console*.

agreement
A documented understanding between two parties. An agreement can be one of three types: service level agreement, operational level agreement, or underpinning contract. See also *service level agreement (SLA)*, *operational level agreement (OLA)*, and *underpinning contract (UC)*.

agreement owners
A feature that allows you to select which individuals or groups of people to notify at certain times, for example, when an SLA is at risk or when an SLA is going to expire.

application administrator
An individual responsible for the management of the ITSM applications, including setting up forms, setting access rights for users, and creating configurations.

Application Administration console
The main interface for configuring ITSM applications. The console works like a control panel from which administrators can perform common configuration activities and activities specific to different ITSM applications and subsystems.

approval
A process that generates electronic signature lines for items that require approval, and tracks who has approved or rejected a given request.

asset manager
The manager responsible for both strategy and day-to-day CI management functions, for example, updating CIs and configurations, running reports, or negotiating contracts.

assignee
The person assigned the responsibility of working on any of the following activities: change request, incident ticket, problem investigation, known error, solution database entry, and so on.

assignment
Automatically or manually assigning a group or individual the responsibility of resolving an issue or request. ITSM applications use the Assignment form for group automatic assignment and the Assignment Engine for individual automatic assignment.

audit schedule
A schedule used to perform periodic audits that check for differences between the information in the CI database and the CIs that are deployed in the company.

availability service target
A service target that measures the time that an asset or service is available or unavailable. This service target applies specifically to data that is tracked in an application based on AR System, such as Asset Management.

BMC Atrium Configuration Management Database (BMC Atrium CMDB)
An infrastructure built on AR System and used to build data models and define datasets.

book value
The value of a CI equal to the purchase cost minus the accumulated depreciation.

broadcast message
An application feature that enables users to create messages that can be viewed by the entire organization or by users in specific groups.

BSM
See *business service management (BSM)*.

bulk inventory
Assets that you order in quantity, such as power cables.

bulk items
Items that are *not* tracked by an individual record for each unit. Bulk items in inventory are tracked by quantities of an item type. For example, items such as cables do not require individual records but rather, one record for a bulk quantity of the specific cable type.

Bulk Performance Manager Node
A feature that allows the administrator to add multiple nodes to a service target at one time. This feature is specific to collection nodes for BMC Performance Manager. See also *collection node*.

business service management (BSM)
A flexible, comprehensive management approach that links IT resources and business objectives. BSM makes sure that everything IT does is prioritized according to business impact, and enables IT organizations to proactively address business requirements.

CAB
See *change advisory board (CAB)*

CCM
See *Change and Configuration Management*.

change advisory board (CAB)
A group that advises change management on the implementation of significant changes to the IT infrastructure. This group is often made up of representatives from various IT areas and business units.

Change and Configuration Management
An application feature that proactively manages both IT and business-driven changes, and protects the IT environment. It does this by using planning and decision-making data contained in a dedicated BMC Atrium CMDB.

change authority
The name of a group with the authority to approve changes. This group can also be called the Change Advisory Board. See also *change advisory board (CAB)*.

change management
As a concept, the process of planning, scheduling, implementing, and tracking changes to the IT infrastructure, or any other aspect of service, in a controlled manner. By using change management, you can implement approved changes with minimal disruption to the business environment.

change manager
A person responsible for filtering, accepting, and classifying all change requests. The change manager is also responsible for planning and coordinating the implementation of the changes. Sometimes known as a change supervisor.

change request
The controlled process for the addition, modification, or removal of approved, supported, or baselined hardware, networks, software, applications, environments, or systems. A change request can involve multiple change activities.

charge-back
The process of charging departments or cost centers for the IT infrastructure required to support their business processes.

charge-back invoice
A detailed list of charges to cost centers, including any charge-back percentage.

charge-back percentage
A percentage used to calculate charge-back costs.

charge-back report
A report used by a cost manager to track information and find entries that might need to be adjusted.

charge-back summary
The total charges made to cost centers, including charge-back percentage. For split cost centers, it also provides information about how charges are allocated for source cost centers and target cost centers.

CI
See *configuration item (CI)*.

CI browser
A component of ITSM. The CI browser lets you search for and view CIs and their relationships.

CI unavailability
The downtime of a CI.

CI unavailability record
The time when a CI is either partially or completely unavailable to perform its required function. CI unavailability records can be broadcast or related to other records.

class
Metadata in the BMC Atrium CMDB that defines a type of object, usually a configuration item (CI) or relationship.

client tier
The architecture level where AR System clients operate within the multitier system.

CMDB
See *BMC Atrium Configuration Management Database (BMC Atrium CMDB)*.

Reconciliation Engine
A component of the BMC Atrium CMDB. The Reconciliation Engine merges data from different discovery services based on identification and precedence rules.

collection node
The data source for the information that is forwarded to the collection points. Some examples of data sources are BMC Performance Manager Classic, BMC Performance Manager Express, BMC Application Response Time, and SNMP data sources.

collection point
The component in the SLM application that is responsible for collecting the data. You can add multiple collection points with different port numbers.

collector
The component in the SLM application that manages the collection points and retrieves data.

Company field
A field in ITSM that controls multi-tenancy. It shows only data for the companies for which you have permission. See also *multi-tenancy*.

compliance at risk target
A target (such as 99.5 percent) that identifies when the agreement's compliance reaches a point that is nearing a breach state and should be identified as a potential risk. See also *compliance-only service target* and *compliance service target*.

compliance-only service target
A service target that enables you to access data already processed by another product for use in compliance calculations. Using the compliance-only service target, SLM calculates compliance results at the agreement level only, by accessing service target results that were already processed by another application. See also *compliance at risk target* and *compliance service target*.

compliance service target
A target (such as 99 percent) that tracks the performance of the agreement to see the percentage of time the agreement was met over specific time periods. See also *compliance at risk target* and *compliance-only service target*.

configuration
Sets of CIs that are required by different groups of people in the company.

configuration catalog
A feature of Asset Management that stores your standard configurations (such as a standard desktop, laptop, server, and so on) for management purposes.

configuration item (CI)
An infrastructure component or an item associated with the infrastructure that is (or will be) under the control of configuration management, for example, a Request for Change. A CI can be complex or simple, large or small. CIs can include entire systems or be a single module or minor component. CIs can also include records of people (users and customers) and locations.

configuration management
The process of maintaining detailed IT inventory records. It involves identifying and defining the CIs in a system, recording and reporting the status of all CIs and requests for change, and verifying the completeness and correctness of all CIs. See also *configuration item (CI)*.

Configuration Management Database
See *BMC Atrium Configuration Management Database (BMC Atrium CMDB)*.

contract
A documented relationship between two parties that identifies details about each party, accounting and budget codes, purchase cost, and expiration dates, and ties one or more SLAs, OLAs, or underpinning contracts to the interested parties. The contract also makes it possible to segment and restrict access to the compliance and service target results so that results can be viewed by contract.

cost center
An entity tracking cost information within an organization. See also *split cost center*.

cost management
All of the policies, procedures, and deliverables required to fulfil an organization's costing and charging requirements.

currency code
The three-letter code that represents a currency type, such as USD for United States Dollars.

dashboard
Web-based, graphical user interface using flashboards where compliance and service target results can be viewed by service level managers, service delivery managers, other IT professionals, and customers or line of business owners. See also *service level agreement (SLA)*, *service target*, and *flashboard*.

data consumer
An application that works with data in ITSM. It might view the data or modify it. See also *data provider*.

data provider
An application that loads data into ITSM. This is often a discovery application. See also *data consumer*.

dataset
A logical group of data in ITSM. A dataset can represent data from a particular source, a snapshot from a particular date, and so on. The dataset used by BMC products for reconciled production data is named BMC Asset.

decision tree
A step-by-step guide set up by an administrator. It guides the user through a questionnaire and, based on the user's answers, completes part of the form for a new incident.

declining balance depreciation
A method of calculating depreciation in which CIs depreciate at a constant rate per year, accelerated by a factor of 150 percent. In this method of accelerated depreciation, 150 percent of the straight-line depreciation amount is taken the first year, and then that same percentage is applied to the undepreciated amount in subsequent years. See also *double-declining balance depreciation*.

definitive software library (DSL)
A central repository of approved product dictionary entries (PDEs). See also *product dictionary entry (PDE)*.

dependent change request
A change request that must be completed in sequence, as defined by the change manager.

depreciation
The loss of an asset's value resulting from the passage of time.

double-declining balance depreciation
A method of calculating depreciation in which CIs depreciate at a constant rate per year, accelerated by a factor of 200 percent. In this method of accelerated depreciation, double the straight-line depreciation amount is taken the first year, and then that same percentage is applied to the undepreciated amount in subsequent years. See also *declining balance depreciation*.

down CI
A CI out of service for repairs or not working.

DSL
See *definitive software library (DSL)*.

escalation
A workflow component that searches at specified times or at regular intervals for requests matching a specified condition, and performs specified operations on all matching requests. Escalations are generally used to find records that have exceeded the business rules or processes you want, and take appropriate action. They run on the AR System server.

federated data
Data linked from a CI in ITSM but stored externally. Federated data might represent more attributes of the CI or related information, such as change requests on the CI.

flashboard
A real-time visual monitoring tool that shows you the state of your service operations, warns you about potential problems, and collects and shows trend data.

form
A collection of fields that represents a record of information in the AR System. AR System administrators can define and change the fields and workflow associated with a form. An AR System application can include many forms.

functional role
A defined role used for notifications and to extend access granted by permission groups.

global
A setting that applies changes or defines certain parameters for all companies in a multi-tenancy environment. See also *multi-tenancy*.

goal
Measurement method that allows you to track the time taken to resolve an issue or track how often an asset or service was available. Goals are used to determine whether service targets are met.

guest user
Users who have not been configured with login information in the People form. Guest users cannot create change requests.

impacted area
Companies, locations, or organizations affected by changes or updates to CIs.

incident
Any event that is not part of the standard operation of a service and that causes an interruption to or reduction in the quality of that service. See also *incident management* and *problem investigation*.

incident management
As a concept, a reactive process typically initiated in response to a customer's call. The primary goal of the incident management process is to restore normal service operation as quickly as possible and with minimum disruption to the business.

incident manager
A person who monitors incident tickets and activities to help plan resources and to identify incident trends. The incident manager also handles assignments.

incident matching
A search process in Incident Management that can be used to search for other incidents, problem investigations, known errors, and solution database entries that share some of the same characteristics as the current incident, such as product categorization.

incident owner
The user who records the incident. This user might differ from the current incident assignee. See also *assignee*.

Information Technology Infrastructure Library (ITIL)
A set of guidelines for the management and provision of operational IT services.

instance
A record in ITSM. An instance is an object of a particular class. Both CIs and relationships are considered instances.

inventory
The quantity of CIs available.

ISO currency code
See *currency code*.

ITIL
See *Information Technology Infrastructure Library (ITIL)*.

key performance indicator (KPI)
A data point used to measure whether performance-monitoring service targets meet their goals. See also *service level agreement (SLA)*.

known error
A problem that has been successfully diagnosed and for which a temporary work-around or permanent solution to the known error has been identified. See also *problem* and *work-around*.

KPI
See *key performance indicator (KPI)*.

life cycle asset management
Managing the life of a CI through its purchase, deployment, and disposal.

maintenance schedule
A schedule used to perform maintenance on CIs.

measurement
The metric by which supervisors measure the ability of the support staff to meet their agreements.

milestone
A point in time that triggers a set of actions as you progress toward an agreement compliance target or service target goal. The triggered actions are to make sure your goals are being met.

multi-tenancy
A feature in ITSM that uses the Company field to limit access by individuals. The Company field can be used to represent a company, department, or other group. The Company field also can be used to control access in a hosted environment. By default, ITSM applications operate in multi-tenancy mode. See also *single-tenancy*.

navigation pane
An area on the left side of consoles that provides links to functionality and links to other programs.

New Request Wizard
A simple form for requesters to submit service requests. Requesters use the New Request Wizard interface to submit service requests to IT, which is the only way to submit a service request from the Requester console.

non-bulk CIs
Stand-alone configuration items, for example, a single server or laptop.

notification
A message sent to a user by workflow. Notification can be in the form of an alert, email message, or other method using integrations.

OLA
See *operational level agreement (OLA)*.

operational catalog
A feature in which operational categories for service requests are defined.

operational categorization
A three-tier hierarchical representation of operations as defined in the Operational Catalog configuration form. This categorization is included in records to specify the range of operations to which a record applies.

operational level agreement (OLA)
An internal agreement used to define and track the level of service provided for an IT organization. An example is an agreement between the network management team and the service desk.

operator
One of a number of functions that enable you to define advanced searches or build qualifications.

Overview console
A central console for ITSM applications. The console works like a control panel from which users can access all assigned work and perform their primary activities.

parent/child contract
A parent, or main, contract that has other children, or subcontracts, associated with it.

PDE
See *product dictionary entry (PDE)*.

peer change request
A dependent change request that can be completed at the same time as another change request.

peer-to-peer
Devices that are on the same level in an organization's network (for example, two workstations). See also *notification*.

performance-level service target
A service target that compares a service level to the goals defined in the service target to determine whether the goal is met. Allows you to monitor whether a critical application that you are using has responded within the time period specified in the goals. See also *goal*.

performance-monitoring service target
A service target that compares a goal to a defined threshold to determine if the goal is met. For example, it allows you to monitor whether a critical application that you are using responds within 4 seconds or if the application meets other criteria such as being in a state of "OK."

permission group
A feature of the ITSM applications that controls what areas of the application a users can access. Each permission group can access only certain areas of the application. A user can belong to more than one permission group.

problem
The root cause of an incident or potential incident. After a resolution or work-around is identified, the problem becomes a solution database entry or known error. See also *incident*, *known error*, *solution database*, and *work-around*.

problem investigation
A process that helps an IT organization diagnose the root cause of incidents and potential incidents. It initiates actions that help to improve or correct the situation, preventing the incident from recurring.

problem management
As a concept, a process that identifies the cause of problems and initiates actions that help to improve or correct the situation, preventing an incident from recurring or occurring in the first place. The cause identified by a problem investigation can be documented in a known error or solution database record. See also *incident*, *known error*, *solution database*, and *problem*.

problem manager
A person who reviews problem investigations and known errors to maintain the quality and integrity of the problem management process. This person coordinates the assignment of problem investigations and known errors to support staff, and also reviews problem investigation requests and performs business impact analysis.

process flow
Shows the progress of a request as it moves through the stages of its life cycle. It does this within a form, such as an incident request. A diagram shows the stages of the process, as indicated by best practices, rooted in ITIL processes. It indicates the current stage and state of the request. The process flow diagram also serves as a wizard, guiding the user through the life cycle.

product categorization
A five-tier hierarchical representation of products as defined in the Product Catalog configuration form. This categorization is included in records to specify the range of products to which the record applies.

product dictionary entry (PDE)
An entry in the Definitive Software Library that represents the master name of a software application. See also *definitive software library (DSL)*.

push field
An advanced action that allows you to push information from the "Applies To" form for which you are creating an SLA to another form on the same server. See also *service level agreement (SLA)*.

reconciliation
A feature in Asset Management that checks for duplicate CI records and enables the user to delete one and keep the other.

registered user
A user who has an entry in the People form with an AR System login ID.

relationship
A type of BMC Atrium CMDB class that defines the relationship between two CIs.

reminder
A message similar to an AR System notification, except that you can define the content of a reminder and specify when to send it.

request-based service target
A service target that measures how long a process takes, such as the time to respond to or resolve a service desk request, or the time to respond to or resolve a change request.

requester
A person in the organization who needs assistance from the IT support staff. A requester is usually an employee in the organization who needs to have a change implemented or an incident resolved.

Requester console
The front end for the Change Management and Incident Management applications. It provides an easy, user-friendly interface that allows users to quickly submit requests for change or incidents to the two back-end applications, and to view their submitted requests.

residual value
The value you can purchase an item for after its lease expires.

return on investment (ROI)
A method of calculating when the capital cost of implementing a project, product, or service will be recovered through the savings that result from completing the activity. The ROI can be expressed in terms of internal savings, increased revenue from external sources, or some combination of these types of savings. See also *service level agreement (SLA)* and *service level management (SLM)*.

review period
A period of time over which the compliance of an agreement is monitored on a regular basis. The following review periods are provided in SLM: Daily, Weekly, Monthly, and Quarterly. For example, if a Monthly review period is added to a service level agreement, then the SLA's compliance target needs to be met on a monthly basis. If a Daily review period is also added, then the SLA's compliance target needs to be met on both a daily basis and a monthly basis. See also *service level agreement (SLA)* and *service level management (SLM)*.

ROI
See *return on investment (ROI)*.

role
A set of responsibilities, activities, and authorizations, usually within the context of a single application or a business system.

Note: Access to Remedy ITSM applications is based on user roles. Depending on your role in the organization—requester, support, management—you work with a different application (or view) on your desktop.

root cause
The underlying cause of an IT-related problem experienced by a customer.

row level locking
See *multi-tenancy*.

salvage value
The estimated value that a CI realizes at the end of its useful life. See also *useful life*.

script
Detailed instructions that have been set up by an administrator to prompt users with questions that can assist in resolving or assigning an incident.

service catalog
A list of IT services, default levels, and options.

service level agreement (SLA)
An agreement between a service provider and its customers or lines of business that formally documents the needs of the customer and makes sure the correct level of service is received from the service provider.

service level management (SLM)
As a concept, the continuous and proactive process of defining, agreeing, monitoring, reporting, and reviewing the performance of IT services to make sure that adequate levels of service are delivered in alignment with business needs and at acceptable cost.

service manager
A manager who uses Asset Management to create service objects used for interpreting business problems, for example, cost of unavailability of services to a business area.

service request
A request for service to the IT organization. Service requests can be requests for change or requests to resolve incidents that impact the user.

Service Request console
See *Requester console*.

service target
The individual level of service to achieve. A service target includes terms and conditions, goals, costs, and milestones. Examples of service target goals include incident resolution time of 30 minutes, application response time of 4 seconds, and an application being in a state of "OK." See also *availability service target*, *performance-monitoring service target*, *request-based service target*, and *compliance service target*.

set field
An advanced action that allows you to pull information from other forms to set in the form for which you are creating the agreement.

single-tenancy
A feature that allows selection of a default company for company fields in ITSM. Single-tenancy mode is required to give unknown users access to the ITSM Requester console. See also *multi-tenancy*.

SLI
See *software library item (SLI)*.

SLM
See *service level management (SLM)*.

software library item (SLI)
The physical storage locations of the master copy of a software application and its versions.

software license compliance
Keeping track of what software your company has and that it has the legal right to use it.

solution database
A repository that stores reusable solutions to customer product problems in an easy-to-retrieve format.

solution entry
A reusable solution to a customer product problem. This is stored in the solution database.

split cost center
A cost center that enables a department to split its costs with other departments. For example, a project management group might split its costs with an engineering department and a sales department. The project management department would be a split cost center, and the engineering department and sales department would be target cost centers.

straight-line depreciation
A method of calculating depreciation in which CIs depreciate at a constant value per year. The annual depreciation is calculated by subtracting the salvage value of the CI from the purchase price and then dividing this number by the estimated useful life of the CI.

submitter
A person who reports a problem, makes a request, or enters information into a database. See also *change request*.

submitter group
One of several special access control groups that the AR System provides. Users automatically belong to this implicit group for requests they have submitted. See also *assignee*.

sum-of-the-year's digits depreciation
A method of calculating depreciation in which CIs lose more of their value early in their lifetime. This method of calculating depreciation of a CI assumes higher depreciation charges and greater tax benefits in the early years of a CI's life.

task
A unit of work that needs to be completed as a step in implementing an incident or problem investigation. In the Change Management application, you can also group a number of activities for requests with a number of actions that need to be completed before the request can be resolved. Your administrator creates task templates and task group templates that you can reuse for the same types of requests. Tasks can be manual or automatic.

task management system (TMS)
A sub-system that is used to create task templates and task group templates. Besides the ability to set up predecessor-successor relationships, TMS supports branching and multiple task paths as well as the data exchange between activities.

TCO
See *total cost of ownership (TCO)*.

template
1. A set of predefined criteria or settings that can be used by many agreements or service targets. See *also service level agreement (SLA)*.
2. A form set up by an administrator that a user can select to complete an incident ticket or a change request with information consistent with the user's support group and the type of incident or change request.

terms and conditions
The conditions that specify whether a service target should take effect. For example, the terms and conditions could specify that the service target applies only to incidents in which the priority is urgent and the service is email. Or the service target applies only to a specific set of KPIs. See also *service target*.

time-based service target
A service target that measures the time taken, for example, to resolve an incident from the time the incident was reported to the time it was resolved. Any time that falls within the "Exclude when" qualification is ignored and not measured.

TMS
See *task management system (TMS)*.

topology
The pattern of links connecting pairs of nodes of a network.

total cost of ownership (TCO)
A method of calculating all expenses associated with a CI over its lifetime. The calculation considers depreciation, maintenance, staff costs, accommodation, and planned renewal.

UC
See *underpinning contract (UC)*.

underpinning contract (UC)
A contract that is used to track performance against prearranged goals that the IT organization has with an external service provider or supplier.

useful life
The number of years that a depreciable CI is expected to be in use.

wildcard
A character that users can type to represent other characters in a search. For example, in search statements in character fields, users can specify wildcards to match single characters, strings, or characters within a range or set.

work info
A record describing work performed.

work-around
A temporary resolution to an incident, problem, or known error.

workflow
The automated set of business processes used to run a company.

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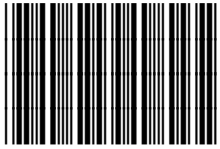

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